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ABSTRACT

This document contains the following 30 papers (most with short abstracts): "The Teacher Transition Response" (Carley); "There Must Be Some Meaning to This: Storytelling as a Research Method" (Group for Collaborative Inquiry); "The Impact of Patient, Social and Political, Practice Environment, and Physician Factors on the Integration of Health Promotion into Family Physicians' Offices" (Jennett et al.); "Developing Strategies of Research for the Human Resource Professionals" (McWhinney, Shapiro); "Fostering Change in the Change Agent" (Meyer); "Women's Ways of Knowing: Effects of Success in a Man's World" (Mott); "On Discovering Traditions" (Pyrch); "Interdisciplinary Discussions of Professional Ways of Knowing" (Wangerin); "The Structure of Professional Learning and Practice" (Barer-Stein); "Reasons of the Heart: The Distinctive Ways of Learning and Knowing Discovered in a Study of Leaders Working for Social Transformation" (Elias); "Situated Cognition and Cognitive Apprenticeship" (Farmer, Buckmaster, LeGrand); "Professional Practice as Artistry" (Ferszt); "Professional Learning in an Organizational Context" (Kelly); "Learning in Everyday Practice" (MacLeod); "Mechanisms for Helping 'Becoming' Practitioners Develop Professionals' Ways of Knowing" (McAlpine, Frew, Lucas); "School Music Teachers as Musicians" (Roberts); "Implicit Knowing in Medical Diagnosis" (Boreham); "The Washington HRD Human Resource Development Consortium" (Chalofsky); "Pathways to Perspective Transformation among Human Service Professionals" (Farquharson); "Vocational Educators' Ways of Knowing" (Finger); "Routinization and Transformation in Teaching Practices" (Kauppi); "Self-Assessment: Helping Professionals Discover What They Don't Know" (Klevans et al.); "Adult Educator: Practice to Theory" (Leclair); "How Paramedics Learn Informally" (Lovin); "A Missing Link between Learning and Professional Practice: Professional Dilemmas and the Evaluation of Professionals" (Aylin); "A New Conceptualization of the Development of Moral Reasoning" (Beaugard); "Personal Transformation and Professionals' Ways of Knowing" (Karpiak); "The Impact of Organizational Environment on Professionals' Informal Learning" (Kilcoyne, Volpe); "Group Learning among Professionals" (Marsick, Dechant, Kasl); "The Experts: Varieties of Professionalism"

(Mitchell); and "Critical Thinking Skills in Continuing Education for the Health Professions" (Smedley). Contact names and addresses are appended. (KC)

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PROCEEDINGS

Professionals' Ways of Knowing and the Implications for CPE

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Commission for Continuing Professional Education of the AAACE

Pre-Conference, Montreal, Canada

13 — 15 October 1991

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Proceedings

Professionals' Ways of Knowing and the Implications for CPE

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AAACE

Commission on Continuing Professional Education

PROFESSIONALS' WAYS OF KNOWING AND THE IMPLICATIONS FOR CPE

Conference Schedule

Sunday

7:00 - 7:30pm	Registration and distribution/review of papers
7:30 - 7:45pm	Introduction to the conference and review of conference activities.
7:45 - 8:00pm	Welcome from William Griffith, AAACE President
8:00 - 8:45pm	Participants divided into table groups to consider the question "Who am I as a professional, and how do I know/think/learn?" Facilitators and scribes appointed for each table; ideas discussed and copied onto overheads. Ideas to be collated that night and distributed the next day for use wherever possible in conference discussions.
8:45 - 9:00pm	Closure of session with possible BRIEF reports from table groups on some ideas generated.

Monday

8:00 - 8:30am	Registration/Continental Breakfast
8:30 - 8:45am	Welcome/Introduction
8:45 - 9:30am	Keynote address by Peter Jarvis: "Learning Practical Knowledge."
9:30 - 9:45am	Open discussion
9:45 - 10:05am	Coffee Break

10:05 - 12:15pm	Breakouts sessions with paper presentations in four meeting rooms. Audience interaction with speakers on practice versus theory issues of papers and, where possible, linking the ideas generated on Sunday evening.
12:15 - 1:30pm	Lunch on your own
1:30 - 2:30pm	Panel Discussion: "Continuing Professional Education: Business or Learning?" Ronald Cervero, moderator with Barbara Legrand, Robert Fox, and Morris Baskett as panelists.
2:30 - 3:30pm	Track breakouts continue
3:30 - 3:50pm	Coffee Break
3:50 - 5:15pm	Track breakouts continue
5:30 - 6:30pm	CPE Pre-Conference Reception

Tuesday

7:45 - 8:30am	Crosstrack Conversations over Continental Breakfast
8:30 - 9:15am	Keynote address by Alan Knox: "International Perspectives on Professionals' Ways of Knowing/ Thinking/Learning."
9:15 - 9:30am	Open discussion
9:30 - 10:30am	Track breakouts continue
10:30 - 10:45am	Coffee Break
10:45 - 11:45am	Round table groups reconvene as on Sunday evening. Discuss if and how items developed on Sunday have been addressed during conference.
11:45 - 12:15pm	Reports from table groups
12:15pm	Adjourn

Moderators/Facilitators

A) Breakout Session Moderators

1) Jody Delehanty, PhD
American Physical Therapy Association
Alexandria, VA

2) Clifford Baden, PhD
Harvard University
Cambridge, MA

3) Christine Purdie
Price Waterhouse
New York, NY

4) Carole Weinstein
Price Waterhouse
New York, NY

B) Team Facilitators

1) Judy Bedford
Alberta Culture & Multiculturalism
Calgary, Alberta

2) Lynn Buckerfield
O.I.S.E.
Toronto, Ontario

3) ~~Deborah Colky~~
~~Real Estate Brokerage Council~~
~~Chicago, Illinois~~

4) David Cruickshank
The Continuing Legal Education Society
of British Columbia
Vancouver, BC

5) Terry Lewis
College of New Rochelle
New Rochelle, New York

6) Michael Price, AIA
University of Oklahoma
Norman, Oklahoma

7) Dr. Timothy Pyrch
University of Calgary
Calgary, Alberta

8) M. Carolyn Troeger, MA (ABD)
University of Houston
Houston, Texas

9) Anne Welsh, B.N.Sc.
CareWest
Calgary, Alberta

10) Andrew Farquharson, Ed.D.
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Guest Presenters/Panelists

1) H.K. (Morris) Baskett, D.Phil.
University of Calgary
Calgary, ALberta

2) Ronald Cervero, PhD
University of Georgia
Athens, GA

3) Robert Fox, PhD
University of Oklahoma
Norman, OK

4) William Griffith, PhD
University of British Columbia
Vancouver, BC

5) Dr. Peter Jarvis
University of Surrey, Guildford
Surrey, GREAT BRITAIN

6) Alan Knox, PhD
University of Wisconsin
Madison, WI

7) Barbara LeGrand, PhD
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The Teacher Transition Response: A Study in Professional Change

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This study reports on the aspects of professional change experienced by teachers who have undergone a career shift, from teaching adolescent aged students to teaching adult students. Teachers in this study reported having to make adjustments and adaptations in their professional knowledge, functioning, and self-definition as a result of this transition process.

Introduction

As education systems change, the careers of individual teachers change also. One major change affecting the education system currently is the number of adult students returning to formal education for the purpose of completing their secondary education. As a consequence of this trend, an increasing number of teachers who have received their initial training and have developed their expertise in a child and adolescent oriented setting, are at present functioning within a professional setting oriented toward adulthood. This change in career responsibilities constitutes a career shift, a professional re-orientation that 'provides an incentive for formal or informal continuing education to which the individual must respond' (Houle, 1980. p. 103).

That the change from teaching adolescents to teaching adults is a change in professional functioning for teachers is hinted at in a number of studies. Beder and Darkenwald report that adult students differ from adolescents 'in ways that are likely to affect the behaviour of teachers' (Beder and Darkenwald, 1982, p. 143). Draper and Keating (1978) and Graham (1982), state that teachers' role functioning changes from that of content transmission to that of facilitating and social enabling. Jean (1985), concluded that teachers working with adults had to expand their role from one of teaching to one that includes a variety of other activities not usually associated with the teaching of younger students. Gorham (1985), suggests that changes in teachers' relationships, beliefs, and self-concept accrue from changes in methodology that adult education teachers adopt. The study that was the basis for this article indicates that these individuals experience changes in methodology, roles, relationships, interactions, attitudes and beliefs, and self-concept (Carley, 1989).

This raises certain questions regarding how teachers, and professionals in general, manage a career shift. What are the components of the transition process? What sources of support and learning are sought out and used as these individuals adapt to a new professional setting, with new roles and responsibilities?

Background

The standard professional pre-service preparation of secondary teachers enables teachers to function within the traditional secondary school. The emphasis is upon methods and techniques of teaching that are based upon established pedagogical principles. Specialization is required within subject areas, with foundation courses provided in philosophy, psychology, and sociology of education, all with a focus on youth education. In general, the thrust is upon preparing teachers of young people; little thought is given to the possibility that some teachers will at some stage in their careers become involved in teaching adults.

Adults as learners differ from adolescents as learners, and as a result there are implications for the professional practice of teachers. Kowalski, after a thorough review of the literature, states that adults differ from children in terms of their learning behaviours sufficiently to warrant the inclusion of 'special pre-service experiences which are different from those designed for elementary/secondary teachers' (Kowalski, 1984, p.10). However, faculties of education provide little pre-service preparation in adult education, or are even willing to recognize the differential aspects of teaching adults as opposed to teaching younger students (Queen and Hammond, 1981).

Studies indicate that individuals enter the teaching profession with little intention of becoming adult education teachers. The majority of teachers working in adult education do so as a result of changes in interests or in employment during their career, rather than as an initial career choice. As a result, few teachers have had, as part of their pre-service program, training in the principles and practices of teaching adults, and few practising adult education teachers feel that their pre-service program prepared them for adult education (Shorey, 1969; Draper and Keating, 1978; Draper and Doucet, 1980; Rachlis, 1982; Carley, 1989).

The pattern that emerges in studies of adult education teachers is one of professionals managing a major career transition with very little support. Neither their employer nor the system of continuing professional education available to them at the time of making this career transition were of assistance.

This study was an attempt to determine how adult education teachers managed this career transition, or career shift. According to Houle (1980), professionals can experience career change in a manner of ways, including movement from one situation to another, from one function to another, from one setting to another, and from one specialization to another (Houle, 1980). Houle found that 'In all changes of the career line...the movement from one post to another sometimes occurs so informally that no provision is made for learning the new role. The individual must stumble along as adequately as possible, learning on the job by trial and error, relying on associates, observing.. seeking advice, reading, taking courses...and using other available resources (Houle, p. 104).

Methodology

Twenty-six teachers employed by boards of education to teach in adult education programs were interviewed, to determine the components and the dynamics of their transition. All of the individuals in this study had received the professional preparation needed to qualify as a teacher, and had experience in teaching young students prior to entering adult education.

Subjects were between the ages of thirty and sixty-five, with the median in the forty to forty-nine range. The sample was predominantly female and married, and the majority had received their professional training more than twenty years ago. All but one had at least a bachelor's degree, with almost half the sample having completed either two bachelor's or a master's. Ten of the respondents were engaged in continuing education courses at the time of the study, and twenty one had successfully completed additional qualification courses over their career span. Twenty had left teaching at some point, either for alternative careers or to raise a family. The median number of years as an adult education teacher was three. None of the respondents had any formal training in adult education before assuming their new positions.

Findings

A major factor influencing the successful management of the career shift to adult education was whether or not respondents had prior experience with teaching or working with adults. Twenty respondents had, at some point in their career, taught adult students on a part-time basis, either in an educational setting or in a community or business environment. It was this initial experience that began the re-orienting process, by allowing them to change their identity and self-concept. Respondents stated that venturing into a new career area by this method meant they could retain their primary identity as a teacher, but change their orientation from teacher of adolescents to teacher of adults.

Experience gained outside of the teaching profession was also of importance. Respondents reported that they benefitted from having non-teaching occupational experience, much of it gained during a break in their teaching career, that permitted them to interact with adults, and that the skills and attitudes learned in this context were carried into the adult education classroom.

Respondents were mixed as to whether or not prior training in adult education would have assisted them in the transition. The majority reported that they had learned to teach adults 'by learning on the job', and by 'using their instincts' and that preparatory training in adult education would have only served as a general introduction to the field (Carley, 1989, p. 177). The value of prior experience, both within and outside of their career, was given more weight than formal preparation at this stage in their careers.

In making the transition, respondents stated that their primary source of support came from colleagues, both in adult education and in the regular system. In order of frequency of use, sources of support were: colleagues; administration; and informal talks, meetings with others, and reading. A general feeling of frustration was reported at the lack of employer or institutionally organized support systems available to them during this time.

The major problems reported by teachers in this study related to three major areas of professional practice: curriculum (professional knowledge); physical resources; and students (clients). Adapting adolescent oriented curriculum to a different clientele, with commensurate changes in evaluation procedures, was the most commonly reported difficulty. The lack of physical resources affected respondents in one of two ways: either it was reported as a difficulty, or as a challenge to be responded to. Lastly, the different clientele affected respondents greatly. Many respondents reported feeling inadequate in their ability to respond to adult students, and that new ways of teaching and of interacting had to be learned.

Respondents reported having had to make adaptations and adjustments in their professional practice. In teaching terms, this meant making methodology changes. For many, a complete restructuring of their approach to practice resulted. All respondents reported that this restructuring was accomplished on the job, and on the basis of interactions with their students; very few reported seeking outside assistance or knowledge in this process.

Changes in role functioning were reported in the areas of interpersonal dealings, presentation of material, and subject competence. These changes were brought about by the different demands and needs of adult students compared to adolescent students. However, the primary change reported was that of a major shift from that of teacher/ transmitter of content to that of enabler/facilitator of learning, or in Knowles' terms, from a pedagogical orientation to an andragogical orientation (Knowles, 1980). This was the major role change experienced. Along with this, came the realization that their previous repertoire of professional skills was inadequate. Teaching, in terms of transmission of content, was no longer their primary function. Respondents now had to take on a major new role: that of personal change agent. This included learning how to counsel, to advise on learning strategies, to coach, to mentor, and to make indirect interventions in their students' lives.

Change was also reported in the area of attitudes, beliefs and values regarding education and teaching. This was, for many, a perspective transformation (Mezirow, 1978, 1991). Long held positions were drastically changed, as respondents recognized that their previous attitudes, beliefs and values were no longer consistent with their currently held ones.

Finally, many respondents spoke of their transition bringing about a tremendous amount of personal growth and change. Many described this in terms of an unfolding, a blossoming as a person and as a professional teacher. In terms of self-esteem, feelings of well being, of increased self-confidence, and of increased self-worth were reported.

Conclusion

As the teaching profession changes to meet new educational demands, individual teachers will experience more career transitions. The management of this transition, specifically for adult education teachers, has in the past been accomplished haphazardly with little institutional support. Instead of enroling in formal courses, or seeking guidance and assistance from employers, teachers reported relying on colleagues for assistance as they attempting to adjust to the requirements of their new career setting.

The teacher transition response, for the most part a transition that is individually as opposed to institutionally directed and managed, contains a number of clearly demarcated steps. These are: a. initial career preparation and certification, b. professional practice in the dominant setting, c. retirement/leave from the profession for personal or alternative career purposes, d. desire to return to the profession full-time, but in the alternative capacity as a result of experience gained during retirement/leave, e. changes in the characteristics of the profession, allowing practice in alternative settings, f. employment in the alternative setting, and g. professional and personal adjustment and adaptation required to succeed in the new setting.

Implications for Continuing Professional Education

Teachers in this study underwent a change in their career line as the result of a career shift, involving a reorientation of professional knowledge, practices, attitudes, and beliefs. Brundage and McKerracher report that teachers respond to change in two ways: changes in a subject area bring about the need for 'new organizing principles, some new skills and strategies for teaching, and extensive new resources, knowledge, and meaning'; while changes in student characteristics bring about 'new values relative to these students, new skills and strategies for working with them, and alternative interpretations of experience. In some cases, old values, meanings, skills and strategies will need to be completely replaced with new ones' (Brundage and McKerracher, 1980, p. 94).

In the present study, teachers reported having to make adaptations and adjustments in both areas: those related to subject area and those related to a new clientele. This involved the unlearning of old patterns of practice and the learning of more appropriate skills and behaviour; the re-assessment of beliefs, values, and attitudes; and the recognition and acceptance of changes in self-esteem and self-concept.

The implications for continuing professional education are that teachers who experience a career shift undergo a transition that is both professional and personal in nature. Rather than the traditional courses, workshops, etc. designed around competencies needed to perform new tasks, continuing professional education should also allow individuals to explore the personal aspects of their career transition. Secondly, professionals need appropriate support and assistance as they work through re-defining their professional and personal identities. Finally, continuing education should be made available not only prior to their career shift, but throughout their transition process.

* References provided on request.

There Must Be Some Meaning To This: Storytelling as a Research Method

By: Group for Collaborative Inquiry

ABSTRACT: Based on its lived experience with storytelling as a research method, the Group for Collaborative Inquiry analyzes three ways in which storytelling enhances knowledge-making and theory-building. Storytelling: 1) provides depth of meaning through expression, 2) provides access to nonlinguistic ways of knowing, and 3) enhances connected knowing.

This paper is about the professional activities of knowledge-making and theory-building. Although persons in all educational professional roles engage in these activities, the processes of making knowledge and forming theory are most frequently associated with the role of researcher. In this paper, we describe how our inquiry group came to use storytelling as a research process and we analyze how storytelling enhances knowledge-making and theory-building.

The way in which the group's history led us to the storytelling process is an important factor in understanding the usefulness of storytelling for research purposes. The members of the Group for Collaborative Inquiry first came together for the purpose of writing a book. The content of the book was conceptualized as an integration of important findings from research studies that group members had carried out as individuals. Each of these studies used in-depth interview data and each researcher was conversant with strategies for analyzing, synthesizing, and interpreting interview data so that their qualitative character was preserved. We agreed at the outset that we wanted to create our book through a process that some of us were naming as "feminist" and some of us as "collaborative". In sum, our group was committed both to a collaborative process for meaning-making and an interpretive paradigm for research, as we understood these two concepts.

Because we live in different regions of the country, our time for face-to-face interaction is limited. Mindful of constraints imposed by limited time and money for travel, we prepared carefully for our first group meeting through a conference call. We agreed that each group member would study the individual research reports, make notes about common themes, and mail her reflections to all group members before our four-day meeting in Austin. We expected during that meeting to lay out what we were calling a "mega-analysis". This mega-analysis would be created through a collaborative process in which we integrated and synthesized the reflections that each person created before the meeting began. Ultimately, the mega-analysis would be our guide for the major ideas to be developed in the book.

Our experience during our first face-to-face meeting was frought with disappointment and frustration. We gradually discovered that the systematic attempt to create a complete picture of the whole by inspecting its parts excluded not only the richness of each research work, but also the interpretive self of each researcher. Our method of mega-analysis in effect erased the expressive power of the data we had collected. We evolved a method for writing our book that is different from the one orginally conceived. Based on our belief that meaning is created through a process of examining experience, we expanded our data base to include not only the experiences of research subjects from the existing data-sets, but also stories from our personal lives and our experience as a group. Further, we shifted our focus from the analytic strategy of the mega-analysis to a more balanced strategy in which we often pause in our analytic discussions to immerse ourselves in the expressive activity of storytelling.

From our lived experience, we have identified three reasons that explain why storytelling is a powerful research method. The ideas we use to conceptualize these three reasons are written about in breadth and depth by others, and this brief paper cannot serve as an exhaustive review. The ideas come from three different bodies of writing--from the literature about emerging paradigms for research, from theoretical writings about learning from experience, and from the work of developmental psychologists with interests in epistemology. The particular contribution this paper makes is to bring together ideas from disparate disciplines. By synthesizing these ideas under the umbrella concept of "storytelling as a research tool", we hope to encourage other researchers to experiment with this strategy for making meaning.

Storytelling Provides Depth of Meaning through Expression

Reason and Hawkins (1988) assert that all modes of inquiry start with experience, and then identify two modes for making meaning from experience--explanation and expression. "*Explanation* is the mode of classifying, conceptualizing, and building theories from experience....*Expression* is the mode of allowing the meaning of experience to become manifest." (pp.81-82) These authors "see explanation and expression not as competing modes but as poles of a dialectic" (p.83), and point out that the meaning-maker must move back and forth between the two poles.

> It is probable that as one moves along the path of expression one may need to call on the clarity of explanation in order to see the available choices: otherwise one may become swamped in the collective psyches' unquenchable ability to create expression. Similarly as one moves along the path of explanation one needs to call on forms of expression to give meaning to what may otherwise become arid and ungrounded concepts....Our argument is that full human inquiry will also be able to develop this dialectic of clarity and depth; so that what we know and can explain we can also fully express. (p.96)

Storytelling can be the quintessence of expression, the conveyance of depth to the researcher's quest for meaning. When researchers work within an interpretive paradigm for research, they find depth of meaning by examining the stories of their research subjects' experiences, collected through in-depth interviews. These same researchers acknowledge that they are both the research instrument and the interpreter and that their personal values and experience are an integral part of the research process and outcome. Thus, the action taken by the Group for Collaborative Inquiry--adding personal and group stories to the stories collected from the original research subjects--is a logical step toward a research group's quest for depth in meaning when it is working within an interpretive paradigm.

Storytelling Provides Access to Nonlinguistic Ways of Knowing

As with the argument above, we again begin with the premise that meaning-making is rooted in experience. When we have an experience, we identify its content either conceptually or sensorially. The reader may be familiar with the language Kolb (1984) uses to discuss this aspect of learning from experience, or with the language used by Heron (1988) and adopted by Mezirow (1991). Kolb refers to the process as "prehension", and Heron calls it "construal". When we use our power of language to identify our experience in terms of concepts or categories, Kolb calls the process "comprehension" and Heron calls it "propositional construal". When our experience is taken in through our senses, without being processed linguistically, it is "apprehension" in Kolb's theory and "presentational construal" in Heron's. Both Kolb and Heron conceptualize these linguistic and nonlinguistic processes as being in an interdependent and dialectical relationship. Heron explains:

> The posited world will have a selective effect upon the presented world: some aspects of it will be brought to a focus and amplified, while other aspects will be ignored and drop into oblivion. And adults may well find it difficult to appreciate the presented world save in the selective terms of the posited world. (pp. 41-42)

Heron argues that the presented world, as the "experiential touchstone for the posited world", can alert us to the fact that "some particular conceptual framework that comes from our language, culture and research is inappropriate for a certain experience". He believes that one of the benefits of group inquiry is to "get these two worlds in active dialogue" (p.42).

The Group for Collaborative Inquiry has experienced storytelling as a mode of expression for individuals' presented worlds. Our experience is that the developing group norm of "pausing" in the midst of analytic discussion for the expression of an individual story has often helped us find language that could clarify and make explicit what might have remained at the inarticulate level of nonlinguistic knowing, and has alerted us to the fact that our group was going off-track in its propositional discussion.

Storytelling Enhances Connected Knowing

Developmental psychologists whose primary interest is the development of women have called for reevaluation of traditional models of psycho-social development that posit growth in the direction of autonomy and independence. These scholars write about the importance of growth toward *inter* dependence (Gilligan, 1982; Miller, 1976). At the same time, other researchers have documented women's epistemological development as including a way of knowing that they label "connected" (Belenky, Clinchy, Goldberger, and Tarule, 1986). Connected knowing involves the knower in the context from which the known is generated. It is a meaning-making process that is functionally equal to the analytic knowing that these researchers call "separate". Whether or not these visions of psycho-social and epistemological development are gender-specific is an unsettled issue (Broughton, 1983; Lyons, 1983), and not one on which the Group for Collaborative Inquiry takes a position. What we do believe is that both these concepts--connected knowing and interdependence--make important contributions to our understanding of how people learn.

In their critique of Jack Mezirow's theory of transformative learning, Clark and Wilson (1991) have argued that Mezirow is insufficiently conscious of the role played by social, historical, and cultural context in the formation of his beliefs about learning. Clark and Wilson believe that when Mezirow takes the position that the "central theoretical assumptions" of adult educators are "learner-centeredness, critical discourse, and self-directedness" he takes for granted a context of "hegemonic American values of individualism, rationality, and autonomy." (p.80) Emerging psychological theories propose alternative contextual values: Psycho-social theories assert that individuality and autonomy ought to be understood in their relation to growth toward interdependence, thus suggesting that interdependence be the dominant value; epistemological theory posits that connected knowing is functionally equal to rational analytic knowing. The Group for Collaborative Inquiry finds these theories useful frames through which to view the role of context in the process of learning from experience. Through its power to communicate the personal context from which meaning is made, storytelling is an enabler of connected knowing. The capacity for connected knowing may contribute to a person's growth toward mature interdependence.

Conclusions

In summary, through our lived experience of learning how to honor our commitment to both a collaborative process and an interpretive paradigm, the Group for Collaborative Inquiry has identified three ways in which storytelling enhances the research processes of knowledge-making and theory-building. We also identify barriers that a group must overcome, should it attempt to experiment with storytelling as a research process.

Storytelling takes time, and because the relevance of a story is not always immediately apparent, storytelling requires a leap of faith. Group members are influenced by the dominant values of the institutional cultures that govern their thinking and livelihoods. Schon (1983) points out that the model of rationality is the most powerful force in shaping our "thinking about the professional and institutional relationship of research, education, and practice..." (p.21). Belenky, Clinchy, Goldberger and Tarule (1986) acknowledge that "the institutions' tutelage, respect, and rewards" are reserved for those who speak with a "public, rational, analytical" voice. In order to engage the power of storytelling to enhance the quality of knowledge and theory generated, group members must be willing to suspend their sense of limited time and rational analysis in order to be open to the expressive experience.

Group Membership

The Group for Collaborative Inquiry is composed of six members and is enriched by our individual experience and perspectives. **Annie Brooks** is an assistant professor of adult and human resource development at the Univiversity of Texas at Austin. Her interests include workplace learning and international adult education. **Molly Daniels** has been a college administrator for program and faculty development. Her interests include adult development, counseling, and the relationship between learning and the arts. **Gwendolyn Kaltoft** has a medical and rehabilitation background and is a case manager for people with disabilities. Other professional interests are emancipatory adult learning and the relationship between education and the arts. **Elizabeth Kasl** is an adjunct assistant professor of adult and continuing education at Teachers College, Columbia University. Particular interests are adult learning and development. **Kathy Loughlin** is an associate professor of adult education at St. Joseph's College in Brooklyn, and adjunct assistant professor of adult and continuing education at Teachers College, Columbia University. She is interested in social action and education for empowerment. **Trudie Kibbe Preciphs** is an associate general secretary for the General Council on Ministries in the United Methodist Church. Particular professional interests include social action and volunteerism.

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THE IMPACT OF PATIENT; SOCIAL AND POLITICAL; PRACTICE ENVIRONMENT; AND PHYSICIAN FACTORS ON THE INTEGRATION OF HEALTH PROMOTION INTO FAMILY PHYSICIANS' OFFICES[1]

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Background: Recent publications[1,2,3] emphasize that the "practical" knowledge and action behind decisions in a physician's office goes much beyond formal textbook knowledge. Practitioners learn to respond to a complexity of factors related to patient, physician, and environment. Nowlen[1] conceptualizes personal change and growth in terms of a multitude of inter-dependent psycho-social cultures (e.g., familial, religious, civic, educational, recreational, and/or occupational). Professional and patient behaviours are, therefore, influenced by all these cultures, their obligations, and considerations. Fox et.al.[2] describe ten forces which stimulate change in decisions in physicians' lives and practices (Table 1). If an attempt at altering practice patterns or change is to be undertaken, these complex and mutually influential variables must be taken into account by physicians, medical educators and policy makers. In addition, Schön[3] points out that physicians must constantly reflect upon action and act accordingly in order to embrace change. Reflection incorporates all social, professional, and personal factors, while providing a vision of possible consequences associated with choices.

Specifically, relating to health promotion and life-style change in the office, several investigators have outlined particular factors which are influential. Mann and Putnam,[4] in their interview of 50 family physicians, report predisposing, enabling and reinforcing barriers to change in cardiovascular risk factors. Battista et.al.,[5] in their study of determinants of preventive cancer practices, outline cognitive, socio-demographic, and organizational factors which can influence care. The opinions of 552 primary care physicians were considered. Green,[6] Orlandi,[7] and Sawa et.al.[8] document conditions which can inhibit and enhance the general integration of preventive practices into health care delivery systems.

This paper will report on practice environment; social and political; patient; and physician characteristics which family physicians perceive to be influential when managing male patients who have been identified as being at high risk for coronary artery disease. The study's approach was unique in that its interview framework was built around the work of Nowlen,[1] Fox,[2] and Schön.[3] In addition, individual patient cases were used to stimulate specific thoughts about the complex determinants of preventive care choices in day-to-day practice.

Research Questions:

1. What are the practice environment factors which influence integrating preventive measures into the family practice office setting?
2. What are the social and political factors which family physicians report to facilitate or hinder patient life-style change?
3. What are the general and specific patient characteristics which family physicians generally state facilitate or hinder patient life-style change?
    a) Demographics, Personality, Physical
    b) Attitudes/Beliefs, Knowledge, Skills
4. What are physician factors involved in instituting preventive measures?

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Sample: Twenty family physicians caring for adult male patients identified at high risk for coronary heart disease were interviewed regarding factors which contribute to their office approach to promoting patient life-style change. Study results are based on factors which influenced office care specific to 47 high risk male patients between the ages of 35 and 60.

Method: An open-ended, minimally structured interview technique, including chart stimulated recall (CSR), was used to collect information on factors which can contribute to the integration of health promotion into family physicians' offices. Interviews, which were audiotaped, were carried out by a nursing professional. All audiotapes were transcribed and content analyzed using qualitative methods by a third-year medical student, independent of the study team. Tapes were listened to and, based upon key content identification, a classification system for coding responses into categories was developed. This classification system was reviewed and revised based upon feedback from a team member who also reviewed a sampling of tapes. Final categories of data were assembled descriptively using tables and graphs.

Results: Practice environment; social and political; patient; and physician factors which family physicians perceive to be influential in the integration process are outlined in Tables 2-5 and Figures 1 and 2.

1) Practice Environment Factors: Nine practice determinants were identified as facilitative measures; two as barriers (Table 2). Sixty-five percent or more of the physicians interviewed indicated that the availability of referral services and allied health personnel were keys. In addition, over half (55%) of those interviewed noted that office organization, including scheduling and identification systems, was essential. A similar high proportion indicated that it was important to engage the family in practice activities. Physician time and costs of extra health care resources were the major barriers.

2) Social and Political Factors: The positive influence of multi-media and accessibility to allied health professionals were the two factors viewed as having most impact; i.e., two out of every three (65%) physicians volunteered these to be important (Figure 1). The two major social and political barriers (70% and 55% of physicians reporting) were: a) lack of money and patient contact time to incorporate allied health colleagues, and b) unstructured remuneration, guidelines, and beliefs by government and professional bodies (Figure 2).

3) Patient Factors: Table 3 outlines general patient demographic, personality, and physical characteristics which were felt to be influential. Support by significant others, personal experience, family history, and environment were seen to play significant parts in patient life-style change. Patient knowledge, skills, and belief issues are in Table 4. To have the best chance of life-style change, patients must be self-motivated and responsible, and have a good rapport with their doctor. In addition, they must possess basic knowledge regarding prevention and compliance issues, as well as have the corresponding coping skills.

4) Physician Factors: Knowledge, skills and belief issues which impact on physician decision making specific to health promotion are found in Table 5. At least four out of every five family physicians interviewed indicated that physicians will more easily and successfully integrate prevention into their practices if they believe: i) prevention is an integral part of family practice, ii) patient education is critical, and iii) multi-disciplinary and collaborative care is central. Lack of belief in contracts and in recalling patients can be hindrances, as well as physician gaps in required knowledge or skills. In addition, four physicians (20%) noted it was helpful if their significant other was committed to prevention activities, one (5%) physician noted that physician style/personality and year of graduation were issues; and one (5%) commented that previous experience with preventive systems was beneficial.

Discussion/Summary: A number of findings in this study are similar to those reported earlier in the literature.[4,5] For example, the physicians note the importance of good doctor/patient relationships (90%), allied health personnel (80%), and office organization (55%). They also report the realities of lack of time, costs of allied health resources, and current reimbursement methods.

The unique approach and method, however, used in this study, provided some findings not previously documented. A very high proportion (80%) of practitioners noted the requirements of a support system to enable life-style change; be it family, significant other, or friend. Interesting as well, is the high proportion of respondents (over half) who indicated that the family should be personally involved in practice activities.

Using actual cases as stimulus to thought also appeared to provide a further overt sensitivity to the significant role that patient-related factors play. Physicians frequently reported the unique qualities of both individual patients and support systems in influencing risk reduction. As well, they noted the importance of specific patient motivation, knowledge, and skills.

Findings such as these reinforce the need to recognize and respond to the complexity of introducing preventive activities into practice. Authors such as Nowlen[1] and Fox[2] have made this clear. Educational programs designed around sound educational principles have repeatedly been found to successfully fill physician gaps in knowledge and skills.[9,10] Less literature and time have been devoted to the design and implementation of systematic techniques which could address the social, political, and patient factors associated with the context of care (e.g., lack of patient contact time, lack of money for alternative health professionals, supportive billing and professional guidelines, and support systems for patients). It is now time for concrete action in these areas. Family physicians report that the medical profession, the government, patients, and the media could all play a role in addressing these issues.

These comments are based on a sample of 20 family physicians responding to 47 specific cases. The generalizability of these findings has not been tested. The physicians were drawn from a primary care data base, and were participating in a study addressing patient risk for coronary artery disease. There is no particular reason to believe these family physicians' opinions might differ from other family physicians in office practice; although their participation in the study may indicate an interest in this area. In addition, it could be argued that further information would surface if a larger sample of family physicians were interviewed. Content review of the tapes, however, appeared to indicate that a point of saturation had been reached.

The study findings have implications for practitioners, the medical profession, the government, and medical educators. All are important stakeholders in understanding and responding to what guides practitioners' behaviours and decision-making, as well as what influences patient change.

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TABLE 1

Proposed Forces Influencing Change in the Liv.s of Physicians[2]

1. Curiosity	6. The Clinical Environment
2. The Desire for Personal Well-being	7. [illegible]ps with Medical Institutions
3. Financial Well-being	8. Relating to Others in the Profession
4. Stage of Career	9. Regulations
5. Competence	10. Family and Community

TABLE 2

Practice Environment Factors
(n = 20)

Positive				Negative	
Factor	% of physicians	Factor	% of physicians	Factor	% of physicians
Referral services	14(70%)	Appropriate patient education resources	8(40%)	Time	12(60%)
Allied health personnel in office or close by	13(65%)	Personal physician/patient contact	4(20%)	Costs for health care resources	6(30%)
Office organization	11(55%)	Office pace & volume	3(15%)		
Family engaged in practice activities	11(55%)	Partnership influence	1(5%)		
Follow-up mechanisms	9(45%)				

TABLE 3

General Patient Factors
(Demographic, Personality, & Physical)
(n = 20)

Items	% of physicians
Family/significant other or friend involvement	16(80%)
Personal experience with illness (self/friend)	14(70%)
Positive family history	12(60%)
Supportive social/work environment and network (neighborhood & peers)	11(55%)
Characteristics, other than personality State of health and disease progression Life situation (pregnant, children) Age Structured life	9(45%)
Other major life stress Marital problems Family stress Change in life	7(35%)
Access to multiple interventions	6(30%)
Personality/emotional makeup	5(25%)
Co-morbidity/tr. side effects	4(20%)
Patient occupation (high stress, responsibility, workaholic)	2(10%)
Lack of time	2(10%)
Previous successful attempt at quitting habit	2(10%)
Previous unsuccessful at quitting habit	2(10%)
Gender	1(5%)

TABLE 4

Patient Knowledge, Skills, Belief Issues
(n = 20)

Knowledge		Skills	
Education/knowledge base (re: prevention, diet, fit)	15(75%)	Skills re: compliance	13(65%)
Lack of tangible visual changes or symptoms	8(40%)	Dietary skills	3(15%)
Awareness of uniqueness of own lifestyle issues	5(25%)	Good communication/coping skills	3(15%)
Need to know how health care system works	4(20%)	Skill to use b.p. cuff	2(10%)
		Illiteracy	1(5%)

Beliefs

Positive		Negative	
High self motivation	16(80%)	Prevention not tangible; belief in acute/crisis care	9(45%)
Civic sense and responsibility in self and loved ones	9(45%)	Health not a priority; other energy allocations	3(15%)
Trust in MD/good rapport	5(25%)	No immediate payback or gratification	3(15%)
Commitment to all aspects of life	3(15%)	Lack of willpower, commitment to change	2(10%)
Belief in healthy lifestyle and prevention and prevention	2(10%)	Fear, concern, anxiety in terms of future problems	2(10%)
Fear, concern, anxiety re: future	3(15%)	Denial of health problems	1(5%)
Personal benefit/goal setting	2(10%)		

TABLE 5

Physician Knowledge, Skills, Belief Issues

(n = 20)

Knowledge & Skills

Lack of education and expertise re: counselling, motivating, and dietary issues	8(40%)
Lack of concrete knowledge base, literature, and statistics	6(30%)
Lack of skills re: prevention, patient education, family involvement	4(20%)
Lack of skills re: recalling and "soliciting" patients	1(5%)

Beliefs

Positive		Negative	
Prevention is an integral part of family practice	19(95%)	Non-belief in written contracts	7(35%)
Good doctor/patient communication with patient is critical	18(90%)	Do not believe in "soliciting" patients	3(15%)
Belief in multi-disciplinary (outside health) approach and collaborating with health professionals	16(80%)	Belief in pharmacological measures	3(15%)
Personally believe in system of prevention	7(35%)	Prevention is a boring topic	2(10%)
Lifestyle care is better than medication	3(15%)	Doctors' role is being usurped	1(5%)
		Prevention is a [illegible] issue	1(5%)

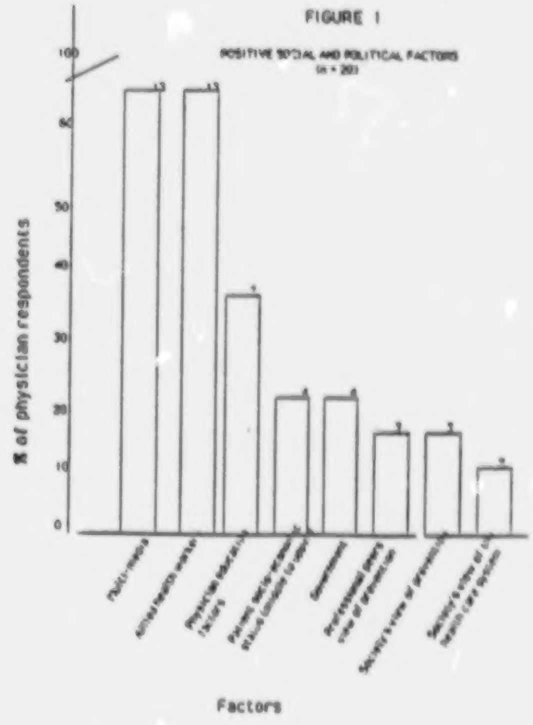
FIGURE 1

POSITIVE SOCIAL AND POLITICAL FACTORS

(n = 20)

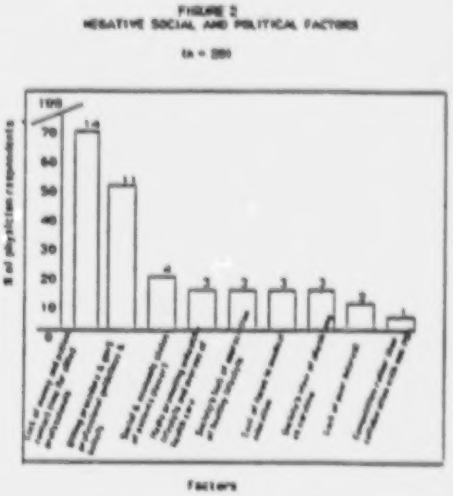
FIGURE 2

NEGATIVE SOCIAL AND POLITICAL FACTORS

(n = 20)

DEVELOPING STRATEGIES OF RESEARCH FOR THE HUMAN RESOURCE PROFESSIONALS: A NEW APPROACH

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Reflective practitioners operating in contemporary professional settings must also be inquirers, continually exploring for new approaches to their work and evaluating their methods. As professionals, they are regularly called upon to solve problems or handle difficult situations for which existing understanding and knowledge appears inadequate. Indeed, the knowledge that is "official," that has received legitimacy in their work contexts, is often part of the problem that they are expected to solve. Hence practitioners are constantly challenged to go beyond the boundaries of received wisdom and inquire more deeply into the structure and dynamics of the systems in which they operate. They need to generate knowledge that will not only help them get the job done but will also provide them with a meaningful personal understanding of themselves and their life involvements.

With the rapid change occurring in almost all professional fields, inquiry has become far more complex than was typically provided for in our basic professional education. It requires methods that use new sources of data and new forms of analysis and that respond to more complex criteria. Just as the dimensions of the world are increasingly intertwined in new and unexpected configurations—from the transformation of the world political, economic, and military system to the new ways in which religion, the media, technology, and the environment affect everyday life—so the boundaries of disciplines and their methods of generating knowledge are becoming increasingly porous. Professionals find themselves needing to resort, sometimes for a single project, to information and approaches that come from the studies of environmental systems, human development, organizational dynamics, consumer behavior, information flow, and cultural tradition, each of which has its own preferred or official definitions of knowledge. Thus professionals often find themselves needing to navigate in what are for them uncharted cognitive waters. And more, with the advent of post-modernism, the scientific community has itself called into question the *the scientific method* as the unique recipe for generating reliable knowledge. Indeed in many contexts, *The Scientific Method* operates as a set of mechanical procedures that encourage rigid, technocratic or bureaucratic thinking and actively inhibit genuine inquiry both as exploration of the context of action and as self-reflection.

Today's professionals must therefore work out a strategic mode of inquiry to acquire the knowledge that is appropriate to their tasks. This is all the more true because of the way in which scientific disciplines have often disregarded or disdained the complex situations in which the professionals derive knowledge from their own experience. The professional can seldom accept the limitations of an officially prescribed manner of acquiring knowledge. As part of the split between everyday experience and translation of experience required by the scientific establishment, professionals have traditionally been trained to discount what they see, feel and hear, and to discount themselves as inquirers. Hence they need not only a new way modes of inquiry, but they need heal the split between everyday inquiry and scientific research and between their roles as practitioners and as creators of knowledge. This split is one of the afflictions of professional life.

For the professional development of the practitioner in human resource development and social change we have developed an entirely new approach to learning what has been traditionally labelled "research". The students are mid-career adults in a doctoral program in Human and Organization Development at the Fielding Institute. They come to the program wishing to increase both their understanding of and the effectiveness of their action in human and organizational systems. They also generally desire to raise their level of personal wisdom and integration—in other words, to become knowledgeable in the broad philosophical sense that has been part of the definition of knowledge in most periods of history and most cultures other than our own.

Cultures of Inquiry

The new approach to research incorporated in our program is based on two fundamental ideas. The first is that there are a number of relatively distinct "cultures of inquiry" that serve diverse needs and diverse communities for which the practitioner should know the values, procedures, and epistemologies used to establish reliable knowledge and evaluate it for practice. These cultures differ greatly in what they consider basic data, the rules of evidence and inference, the subject-observer relationship, the modes of reporting new knowledge, and the institutions that are its most important "clients." Most visible among the client cultures is the academic social sciences so it is natural that we would give an important place to the empirical methodologies which include experimental design, survey research and evaluation research. In the approach we have developed, the empirical is but one among many approaches to inquiry. Other cultures that we have included in the repertoire are: phenomenology; ethnography; hermeneutics; comparative-historical inquiry; theoretical inquiry, and action research. By the very premises of our approach we cannot consider this an exhaustive taxonomy of orientations to research, but is it sufficient to alert the students to the major approaches to inquiry, and to recognize that there is not an established limit on the means of developing knowledge

Each of these cultures of inquiry given above has by now a well-established tradition behind it and a community of advocates who champion the particular epistemology and who often find the other cultures to be less likely to produce reliable knowledge and thus may regard the other cultures as inferior, invalid, or, worst of all, "unscientific." Nevertheless, we believe that anyone engaged in inquiry into phenomena of individual and organizational life needs to be able to chose among these cultures, taking into account the demands of the tasks at hand and the questions to be answered as well as on cognitive preferences of the inquirer and the research community within which he or she is situated or wishes to situate him- or herself. We do not believe that, in today's world, a person who can limit their thinking within one of these cultures of inquiry and lay claim to the title of scholar or operate effectively as a professional.

The second core idea of our approach is that knowers—inquirers or researchers—are human agents with lives, histories, and selves who are engaged in an ongoing practice, and that knowledge is inherently personal and therefore inherently defined by their lives, histories, and practice. This view is thus fundamentally critical and reflective, in taking a "meta" position outside of any particular research program; hermeneutic and historical, in viewing knowledge as inherently contextual; phenomenological, in seeing knowledge as the knowledge of and by human subjects; and pragmatic, in seeing it as directly linked to practice. Not surprisingly, our philosophical position invokes a theory of practice, that is a **praxis,** which reflects the very cultures of inquiry that are its content.

These two core ideas are linked through the notion of "ways of knowing." This notion is used to examine the multiplicity of cognitive orientations embodied both in cultures of disciplined inquiry and in the more informal, divergent ways of knowing characteristic of human cultures, social groups—with special attention to the recently recognized "women's ways of knowing"—and personality types.

This approach to inquiry, in both its fundamental multi-culturalism and its "subjectivity," is, of course, consistent with current trends in the philosophy of the social sciences, especially those inspired by European philosophy and social theory. It is also particularly suited to adult human resource professionals who know themselves to be actors in the world rather than detached "students" of it, and who experience daily the multiple modalities of knowledge and the ways they are enmeshed in the world. Nevertheless, it comes as a sometimes profound shock—and often as a liberating one—to most of these doctoral students, because of the effectiveness of their socialization into the positivist culture of American social science.

It is fair to say that what the majority of entering students have learned from traditional courses in master's programs is that research is something that does not require or involve—and may even disfavor—thought, personal engagement, and action, and that it made up of systematically impersonal (and often mathematical) procedures to be memorized and executed by the "ghost in the machine," often with a gritting or gnashing of teeth. Hence the ideas that there is continuity or overlap between everyday and scientific inquiry, that the latter may require interpretation and draw on the knower's personal and social history, that it might involve examination of one's own and other's subjective experiences, or that knowledge may arise in intentional social change processes, is astonishing to many students who have grown up in the contemporary American culture. Yet at the same time this view corresponds to what many of them cherish as an image of inquiry but have banished from their expectations as an acceptable source of reliable knowledge.

into the streets to observe

In the context of our program, the core ideas imply in practice that training professionals in inquiry necessarily involves a strong experiential component, not merely because most adults learn well in this way and because professionals will be conducting inquiry in practical contexts, but because knowledge agents and subjects are inherently experiencing beings —"experiential" is the original meaning of "empirical." From the first day, our students go out into "the streets," to observe and inquire into what is there, and to become conscious of how everyone finds a different world according to their personal histories. They not only experience the difference in what constitutes data but in the different roles called for by each culture. This experience carries the message that inquiry is and ought to be inherently exciting, creative, and pleasurable and the ingenuity and strategy are as important as technique. A recurrent reaction from the students is that their indoctrination both in prior education and from the cultural myths hadn't prepared them for the idea that research could be enjoyable and engrossing.

Students are thrust directly out into the world, individually and in groups,to observe, describe, analyze, interpret, and make sense, as well as to pay attention to the details of their experience of these activities. Part of the students' work is keeping journals of self-reflection upon their experience of the research and reading of the experience of others such as gathered in M. Patricia Golden's *The Research Experience.* So sensitized by their own experience, they are able to integrate directly the main features of the different inquiry modes and the formulation of strategies of inquiry. In the initiatory sessions they are given brief descriptions and readings from the diverse cultures which they also treat as *data* to be integrated into their emerging professional and personal strategy of inquiry. It is part of the data they will use in developing themselves as "research instruments" who have deep proclivities for one or another culture and the socio-economic conditions that support the different approaches. In this context, the students are given an introduction to epistemology, in which the philosophical assumptions underlying the cultures of inquiry, and the grounds and limits of their validity, are articulated. Thus the students are encouraged to think of none of the modes of knowledge as ultimate givens, but rather as themselves subject to argument, critique, and strategy.

One important by-product of this innovation is a reduction of the dread many people experience in encountering inquiry from the positivist indoctrination that led them to think that all inquiry must be conducted with the statistical tools so important in the empirically oriented culture. Once they see that the empirical mode is one to be chosen for strategic reasons, many students are even freed to engage with the formalism of statistics as in the case of one mathophobic student who, in the course of working on her dissertation, embarrassedly confessed to her advisor, "I love statistics."

Following the experiential and self-reflective initiation into the cultures of inquiry the students explore a sub-set of the cultures to support the directions of inquiry that their professional or academic careers will demand. And, since textbook presentations of research methods are usually post hoc rationalizations and "secondary elaborations" of actual research practice, students explore their chosen cultures of inquiry not only through textbook presentations but also through the analysis of particular research studies carried out within these cultures. Some follow a course of phenomenological and interpretative inquiries into an empirical validation studies, that is, follow the ideal course of inductive investigation. Another may focus one a more familiar study of survey and evaluation research, and still another will develop skills in hermeneutic interpretation and linguistic analysis. Their skills are developed in ongoing research conducted along with the academic assessments in the disciplines, finally focusing on graduate level mastery of the tools needed for their dissertation work. The ideal outcomes of this approach are professionals working in consulting or academic capacities who have integrated inquiry into their consciousness both for self-reflection and for developing scientific *re-presentations* of new knowledge in published writings.

What Fielding is developing is not so much a new *way of knowing* but a new responsibility for holding knowledge in respect for the communities within we must work as professionals. It is irresponsible to assert a unique way of knowing—even to assert that there is no unique way. The criterion must be in terms of its contribution to society The professional's work must continually develop information which is falsifiable, as Carl Popper indicates, but which also contributes to the ameliorization of pain and to the visions of a humanistic society, varied in culture and continually open to new ways of inquiry into the human condition and its possible evolution.

Fostering Change in the Change Agent: An Exploration of One Approach to Trainer Development

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If trainers are to assist workers in developing critical thinking skills, then trainer development programs must address these skills. This is best accomplished in an environment that models the development of theories in use.

A recent quote from Terrence E. Adderly (1991), President and CEO of Kelly Services, provides a challenging mandate for training professionals:

> If HR professionals are to be of value to our companies today, they must provide us with an agenda that builds in our employees the capacity to change; the capacity to recognize and respond quickly to our competition; and the capacity to focus their agencies into quality and service.

Adderly suggests a need to be as concerned with expanding staff's capacity for independent judgment and decision-making as with the transmission of job-specific technical competencies. Plans to develop critical thinking skills in employees should start with an examination of the preparation of the staff who will train those employees.

One of the problems posed in addressing the developmental needs of trainers is the clear difference between the preparation of trainers and that of individuals in similar fields. Houle (1972) provides a simple line diagram to illustrate the classic model of professional development. In this diagram, there are firm barriers at the entrance to the profession and at the end of a clearly defined period of training or specific development. This is followed by a trial period or internship before full assumption of the professional role. This is not always the case in training. While most trainers may consider themselves professionals, their backgrounds and preparation vary widely. Within the same function, there may be people with no college courses as well as those with advanced degrees specifically geared to training or HRD. Preparation for the training role once hired varies too, from learn-as-you-go to formal courses.

Independent learning is not the answer to the unskilled, untrained trainer's dilemma. The major focus of most of books on how to develop and/or conduct training continues to place the emphasis on technical competencies - how to conduct a needs analysis, how to write measurable behavioral objectives, how to evaluate training, etc. While serving as excellent references, most of the literature doesn't get past the "how to" phase to explore the philosophy behind the competencies - who the trainer is, what he or she brings to the training, what corporate values are being espoused and how the personal gets played out through the professional. These issues, however, seem to me to be at least as important as technical competencies in the preparation of trainers who will be shaping the professional attitudes of those they train.

Preparation for trainers should reflect the needs of organizations. In addition to imparting factual content, the charge of the trainer includes effecting a change in attitude or perspective. In the public sector, needs that are currently emerging as paramount include the ability to be flexible and adapt to change and the ability to be client or customer focused. These concepts are radical for slow-moving, rule-driven bureaucracies. This paper addresses the need to create, in the professional development of trainers working in municipal agencies, individuals who have the skills and abilities that will assist them in developing similar skills in others. In staff development and training settings, where the trainers themselves are often a neglected population, how can this challenge be successfully met? Critical thinking and reflection-in-action are the tools trainers need to meet this new challenge.

Pfeiffer and Jones (1974) felt that the professional should be concerned with four facets of training: self, theory, technique and skill. They stressed the extent to which personal growth and awareness affected training ability. This is underscored in Byrum-Gaw and Carlock's (1983) discussion of modeling, in which they advocate modeling as a way to "demonstrate an appropriate integration of theory and practice - to prove that theory is livable and viable by involving the learner cognitively, affectively, and behaviorally." In my own work with trainers, I seek to establish an atmosphere that allows for exploration of this interplay of personal and professional issues in order to allow exploration of the kinds of conflicts likely to be present in the trainers' own practice. Through extensive use of modeling, role play and discussion, often employing layers of role play (trainers role playing trainers role playing trainees), we attempt to explore "the values and assumptions that drive one's own or another person's behavior" (Schon, 1987).

The skills required for training that fosters critical thinking are very much like those required in counseling. Delaney and Eisenberg (1972, p. 51) identify the following characteristics of a facilitative relationship: empathic understanding, warmth and acceptance, genuineness and honesty and professional competency. There is a close link between training and counseling in that a good counselor is often part educator and a good trainer enables trainees to become more self-aware. Increased self-awareness creates opportunities for greater transfer of learning to the workplace. Trainees should be asking themselves: What change is required of me? How do I handle change? How do I feel about this change? What am I learning that I'm likely to use? How will I use it? These kinds of questions constitute an assessment on the part of the trainee. Rather than expecting learners to assess their own needs, perhaps we need to reframe Knowles' concept and look at the learners' role in assessment as one of personalizing their needs and reflectiung on their own learning process. The trainer should encourage this process and facilitate workplace transfer.

Moving trainers beyond just reciting facts to incorporating innovation in their training requires more than just teaching fancy footwork. It involves creativity, openness and honesty in the way trainers are trained. In my basic courses, we break out into small work groups early in the program, usually on the second day. In the overview course, curriculum development groups are formed based on interests and organizational needs. All the themes or topics that interest the group are listed out on flipchart paper. The group then works as a whole to combine topics, pare down the list and find some common themes. Usually, we are able to come up with four unifying themes so that each of the four tables can work on a different curriculum. The groups then work together to come up with a topic outline and specific objectives for their training program. Course examples are drawn directly from the participants' own work. Each member writes portions of a curriculum and presents them during two videotaped practice sessions. This enables participants to receive feedback on their design abilities as well as their delivery skills. Also, the groups stay intact for the next six days. This allows for a certain amount of bonding and modeling of group process that can be discussed.

In teaching design, I try to stress flexibility and the ability to interchange material. We usually work together to rewrite an experiential exercise. The original exercise asks the group to identify the cause of a problem from a number of statements related to the situation. The problem has to do with a man who has found brown spots in his lawn. Statements concern the possibility of a mole, facts about moles, facts about the man's neighbor and the man's feelings about things. By separating out the distractors, participants are supposed to be able to determine that the problem is that the man has grubs in his lawn. Most urban groups have trouble isolating the problem - they don't have the right set of facts to process the information. We discuss this and then talk about how, for example, I reframed the exercise for investigative caseworkers in Protective Services for Adults. We work through the same exercise with the new problem of Mrs. Murphy, an elderly woman living alone. The situation is taken from an old song. Statements include: "The foreign object in Mrs. Murphy's chowder is a piece of laundry. Chowder tastes nice with crackers. Mrs. Murphy likes to boil her laundry to get it clean." In this example, the group has little trouble settling on the problem as Mrs. Murphy being unable to eat her chowder, sorting through causes (no hot water, identical pots, poor vision) and making appropriate recommendations. We then discuss how to creatively modify the exercise for other groups. Child care workers could examine the accident in Jack and Jill. If Jill is Jack's mother, what statements would create an child abuse investigation?

We also discuss flexibility and adaptation in terms of processing group exercises. Broken Squares is a game used by many trainers. Group members are given three sections of a puzzle and asked to create five squares of equal size, each made up of three pieces. They may offer pieces to other members but may not grab and may not talk. If the processing focusses on how members interacted and roles they played within the group, this becomes a team building exercise. If, however, the focus is on how the process occurred without words, this becomes a communication exercise. We process the exercise both ways and contrast the differences.

Reframing exercises in this fashion begins to develop in trainers the ability to take more than one perspective in a situation. A program mixing theory and practice attempts to strike a balance between teaching specific skills and fostering appropriate attitudes. These attitudes should enable trainers to move beyond skills training to help their trainees define their own values and attitudes and identify how these are implemented in the workplace. This happens in the free discussion that goes on around the development and testing of exercises. In planning an exercise, the group must identify hoped for outcomes, specific values and attitudes to be processed in terms of workplace implementation and cues that will move the discussion along appropriate lines. For example, in discussing an exercise on separation in investigative child welfare work, trainers need to decide what they want the group to feel. Is it appropriate to evoke anxiety? If so, once evoked, how should the anxiety be handled? Feedback from trainer and participants allows the group to explore interventions and eventually conclude that exploring the kinds of behaviors that reduce anxiety is more productive in determining how to deal with similar reactions than dwelling on the anxiety itself.

Videotaping and feedback provide an excellent opportunity to learn the behaviors necessary for reflection-in-action. It gives trainer and facilitator both another chance to review the action. A skilled facilitator will encourage the trainer to engage in running dialogue, processing what they're seeing in terms of what they're thinking. Videotaping also allows an exercise to be processed through to completion before the discussion begins. When tape is used in counselor training, an intervention is often broken up into segments, allowing for feedback after each exchange. In training trainers, this becomes too artificial to be useful. It is necessary to look at the flow of dialogue and to see how all of the participants interact with each other and with the trainer. Videotape allows for this and also allows for repeated replays when exchanges are not clearly decoded. Videotape and peer critique also enhance the ability of the trainer participants to hone their skills. During the replay, they can examine their own reactions to what was going on and generate alternative probes or responses that would have helped them.

This same concept of providing feedback and opportunities for double-loop learning in a protected environment with provision for correction of misassumptions can occur within an organization when the assistance of a facilitator is requested in the final stages of curriculum development. Incorporation of a run-through in the design phase allows trainers the time to adjust material and work out cues before the actual sessions.

Brookfield (1987) points out that most workers are constantly developing and testing out theories in use. The role of the trainer should be to help workers become aware of the process and to facilitate increased development and testing in the workplace. In order to do this, trainers should be trained in a protected environment like the one described above so that they can replicate this environment for their own trainees. In both the training of trainers and the training of workers, experiential exercises, role plays, games and simulations provide safe opportunities to develop and test theories in use and to gain insight into the process. Training in the workplace that uses the classroom as a laboratory with the opportunity for modeling and practice of new skills fosters open systems thinking - creativity, flexibility and innovation.

Where should this be accomplished? The training of workers is best accomplished in the workplace in most instances. The preparation of the trainers to train workers provides opportunities for increased university/workplace collaboration. The basic preparation of trainers is probably best accomplished in the workplace for two reasons. First, workplace-based programs tend to be stronger on direct workplace application than outside programs. Part of this is because the trainer is more familiar with the worksites involved. Also, groups tend to be more homgeneous, an advantage when a high degree of collaboration is required. Second, the workplace better accomodates the extended time periods essential to fostering facilitative skills. Training is generally accomplished in full day blocks. Eight seven hour days allows the luxury of extending discusssions to their natural conclusion and reprocessing the same material two or three times to illustrate variations. There are parts of the process, however, that are better accomplished or initiated at the univeristy level. First, workplaces should encourage training staff to gain appropriate professional credentials. The better educated the trainer, the more likely that training will move beyond lecture. Second, faculty can assist practitioners in broadening their perspectives. Faculty and practitioners can help each other by interacting more frequently, sharing their experiences and working together to translate theory into practice. These exchanges would increase the ability of both groups to understand and facilitate professionals, ways of knowing.

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Women's Ways of Knowing:
Effects of Success in a Man's World

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Abstract: Through the challenges of success wrought in primarily male dominated professions, women may approach meaning construction, valuing, decision making and learning differently than those in more traditional roles. The thesis of this research is that such introspection poses considerations of value, relevance and applicability for the CPE of women today.

> "Come to the edge, he said. They said: We are afraid.
> Come to the edge, he said.
> They came. He pushed them ... and they flew."[1]

In late 1989, I began looking at professional women in terms of values, decision making, lifestyles and educational choices. These inquiries and subsequent interviews were conducted within the framework of Belenky et al's Women's Ways of Knowing (Belenky, Clinchy, Goldberger, & Tarule, 1986). The research goal was to search for, document and hopefully elaborate on the implications of this developmental model for women where work, education and community were concerned.

The thesis was that perspective transformation could be - indeed, perhaps should be - provoked in women in career transition through life event analysis and critical reflection. Women's Ways of Knowing (1986) offers descriptors of ways in which women assign value and personal meaning to their life events, thus explaining how they come to know and view the world. These progressive phases are not age related and reflect the developmental impact of one's experiences (professional and personal) and education on values and choices. Implications are that women approach change, opportunity and challenge in very different ways, and further, that learning is a clear representation of these differences. While there is no single best way to be, the *ways of knowing* are situationally based and can often be regressive in stressful circumstances. Thus, relationships of power that class, gender and race bring to these phases and to one's learning environment are universal and complex while differing among women (Luttrell, 1989).

Using Belenky et al's descriptors, the original subject group was made up of one *silent listener*, one *listener*, three *personal*

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[1] Guillaume de Lorris, c1215-1278

knowers, four *reasoning knowers* and one *integrated knowing* woman. The research was conducted primarily through guided ethnographic interview sessions. During the ten-month research period, several of the women spoke of an intrinsic value received from sharing their experiences, exploring common options and challenges, reaffirming one another and reinforcing new-found strengths. They began to reach out, seeking one another for support and "safe" reflection. A common bond grew strong and obvious in this smaller core group: the success achieved in their male dominated professions had altered their meaning construction, valuing processes and subsequent impact on the rest of their lives (Josselson, 1990). It became increasingly important and beneficial for them to discover the assumptions which undergirded their ways of knowing and consequently impacted decisions in every aspect of their lives. Those underlying assumptions were thought to have especially significant impact in their largely non-traditional professional careers (Schon, 1983). Thus began our new core group of women who had struggled (in some cases, against their will and better judgment) to meet the challenges and find "success in a man's world."

Out of the original group of ten subjects, our group now consisted of the following. Mary, our *listener*, is a 39 year old owner of an industrial laundry and dry cleaning company employing more than fifty people. She had been "forced to continue" the business after her husband died suddenly. Like her numerous threats to close her successful business endeavor, Mary often spoke of quitting the group, expressing her perceived lack of contribution. There were now two *personal knowers* remaining in the group. Dottie is a 32 year old engineer, and Jacque, 34, is a residential landscaper. Both have had previous business failures, are single with no business partners and have isolated, distrustful attitudes toward most other people. Their interest in, and contribution to the group seems to be a continual surprise to both of them. To a great extent, their ways of knowing help keep the group honest and uncomplicated. Ann and Jean are *separate reasoning knowers*. Ann, 56 and never married, is a liquor wholesaler. Jean, 48, has worked in the same manufacturing facility for more than thirty years and now supervises two shift crews of machine operators. Jean was not part of the initial group of research subjects, but asked to join the "reflective, self-help group" following conversations with a colleague who took part in the original research study. Ann and Jean's analytical, procedural tendencies help keep the group focused. Susan, a *connected reasoning knower*, encourages the group to stay in touch with our "inner voices" - quite a challenge for Mary (*listener*), Ann and Jean (*separate reasoning women*). At 44, Susan's inner voice is an intangible asset as the only female trust officer in a large, ultra-conservative lending institution. Finally, there are two *integrated knowers* in the group. Toni, 34, is a regional manager for a consortium of private clubs; Jo, the second newcomer to the group, is a 36 year-old military reserve officer. Toni and Jo challenge the others toward greater exploration, communication and reflection. The entire group is challenged to listen for whispers as well as loud protests and assertions. We have all learned from both (Laidlaw, 1990).

Learning styles of the women are echoed in their communication styles. The *personal knowers* prefer experiential, hands on learning and enjoy the informal discussion format which the group endorses. The *listener* leans into every word shared and has found critical support in the communal ideas of the group. The *separate reasoning knowers* are quick to assert opinions, defending them as based on life experiences. The two are still often disappointed when reflection and new awareness fail to proceed "on schedule." Since there is no established authority figure, the *separate knowers* are comfortable with new "knowledge" as proffered by the group. Perhaps through her trusting, patient and non-judgmental personality, the *connected reasoning knower* remains the stabilizing factor in the group. She learns best from the long-term relationships of the group, while constantly reminding the others to look deeper for what "is really important to us." Our *integrated knowers* quietly seek further questions rather than answers. They are stimulated by the intuitive sharing of feelings and listen quietly to the growing discussions of transformative experiences.

As I have continued to search for and study the operationalization of their meaning construction and decision making, it is clear that each of the women approaches business and educational decisions differently. What has begun to surface is that through introspection and provoked reflection, they now choose more conscious directions. Each in her own way, has begun to develop more adaptive responses to the challenges of both business and personal life. The women have experienced a change not only in the execution of their roles and responsibilities but in the determining and valuing of those roles and responsibilities. Through introspection, shared inquiries and perspectives, they are adjusting the images of who they are as women and professionals, but also as learners (Josselson, 1990; Luttrell, 1989).

The effects of the now eighteen-month, voluntarily provoked reflection are evident in three major areas of their lives. First, each of the eight expresses serious but primarily positive effects in their personal lives. They don't "fit into traditional women's roles" any longer. For a few, there is a sense of mourning for the women they "used to be." When another in the group suggested returning to find that person, the reply came, "I wouldn't think of going back for her! Don't you understand, 'she's' not an option for me now." Each of the eight feels they are more selective regarding activities, challenges and companions; they also expect more from the supporting others in their lives and freely express those expectations. They meet any fears and choices before them in a more positive manner, are more flexible and unafraid.

Secondly of course, there are positive effects in their professional lives. Several speak of no longer second guessing their decisions or externalizing their successes. They all feel more focused on their careers and continue to grow professionally with greater monetary gains and recognition through business and civic organizations and societies.

Finally, there are effects on their educational plans and expectations. Seven of the 8 are participating in some form of continuing professional education. They are more discerning and expect more from their educational efforts and those delivering or guiding those endeavors. Each of them is increasingly more self-directed and expresses no apprehension toward a topic or learning environment.

Contrary to a great deal of the research on women - which focuses on either dysfunctional groups or on how women differ from men (Josselson, 1990; Laidlaw, 1990) - this initial focus has been on the ways in which these few women are different from one another in meaning construction, value formation and learning approach. That women differ from one another, much the same as any other homogeneous group display differences within a group, soon surfaced as an obvious, unrevealing fact. It is an important fact, but one without impression. In an attempt to draw some conclusions and provide future direction, one recent group session was dedicated to discovering the commonalities in the group.

The women report that, despite the fact that they work an average of 68 hours per week, they feel "healthier" in terms of weight levels, lowered instances of illness, lowered stress levels and increased sense of overall well-being. Each feels increasingly less likely to revert to a former developmental phase. Their support systems (spouses, families, significant others) remain intact. They commonly express the need for more "alone" time for reflection, event assessment and decision making. Each of the eight now keeps a journal of some sort (Heilbrun, 1988). The women still consider themselves the exception, not because of what they've done professional, but because of how they feel about their success and how they reconcile that success with their values, meaning construction and knowledge formation.

In a way, each of the women has become an *integrated knower* of heightened consciousness (Belenky, et al, 1986). While the roles of wife, mother, significant other, community volunteer, or student are still important and continue to be fulfilled, each of them in varying degrees has ceased to compartmentalize these roles and responsibilities. They are "whole" professional women with a wide variety of choices and challenges, each of which is considered in a more balanced context.

Conclusion

Between now and the turn of the century, it is estimated that 64% of the new entrants in America's workforce will be women (Bennett and McLaughlin, 1988). As more of these estimated 16 million women join the ranks now typically dominated by men, many of the adaptive stances shared by our group of eight are likely to continue. Implications for the initial or continuing professional education of these women are yet to be fully determined. Through their professional challenges, these women have discovered that it is no longer enough to be functionally prepared without being sensitive and introspective about how one got there. The professional community rewards one's efforts of insight with additional challenge and opportunity. Women expect the same from their educational community. At the very least, adult educators have the responsibility to recognize that junctures occur in one's life and are often tied to the educational environment. The next step is to foster the journey that ultimately brings one to that crossroads.

"Come to the edge..." The urging was deliberate but unconscious, and without the full comprehension of its significance. We were afraid. But we jumped off together and we flew.

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On Discovering Traditions

Timothy Pyrch

Abstract. This self-reflective story describes how this professional adult educator came to know about the libertarian tradition in the adult education movement. Drawing upon an international literature past and present, and upon personal experience, the process of discovery is sketched out.

The libertarian tradition in the adult education movement calling for the emancipation of humankind has taken many forms. At present, it reveals itself in participatory action research (PAR) conferences, essays on radical adult education and a growing acknowledgement of other systems of knowledge generation in addition to instrumental rationality that has dominated us for so long. In past, it was seen in a faith in the liberating power of knowledge and human reason expressed by the likes of Eduard Lindeman in the United States and Ned Corbett in Canada. In future, it will appear in the liberation through empowerment theme of the proposed Decade of Human Rights Education, 1991-2001.

This story is about how I came to know about this tradition rather than a study of the tradition itself. It is a story of many pieces of my life and knowledge coming together as a result of my routine work during the past four years as a professional adult educator based in university continuing education. It is a story of how I came to be equipped to recognize this tradition which, as far as I can tell, has not been articulated in our literature.

How do I know there is a libertarian tradition? Five answers to this question provide the overall plan for this paper. First, I see signs of the tradition in our current literature in the concepts of PAR, critical social theory and social transformation. The most recent issue of the journal of the Canadian Association for the Study of Adult Education is devoted to critical social theory and adult education, and the editors introduce the concept this way:

> The strength of critical social theory is its propensity to be critical of the existing social culture which in turn determines the latitude of equality feasible or possible. As authors such as Rex Gibson have noted, the central intention of critical theory is emancipation: to enable people to gain the knowledge and power to be in control of their own lives (Warren and Little 1991).

Fals-Borda (1991) sums up twenty years work with these words: "By retaking and redefining our iconoclastic origins, we are discovering once more the pertinence of participatory action-research to the transformation of our societies into a more satisfactory and less violent world" (p. 155). A group of activists based in southern Ontario have recently published a guide for educating for social change with the intention of freeing people from their oppressors of all forms (Arnold et al. 1991). For them, the issue of power is central: "Education must empower all people to act for change...this education must be based on a democratic practice: by which we mean creating the conditions for full and equal participation in discussion, debate, and decision-making" (p.1).

I sense an urge for freedom in associations like the Participatory Research Network, the International League for Social Commitment in Adult Education and the Transformative Research Network. The southern Ontario group are based at the Doris Marshall Institute in Toronto, an organization committed to popular education and social change. Fals-Borda (1991) lists many similar organizations that have appeared recently throughout the world. For fifteen years the International Council for Adult Education has sponsored conferences to explore global problems, most recently in Bangkok in 1990 with the theme 'Literacy, Popular Education and Democracy.' In an inaugural address in Bangkok, Lalita Ramdas of India said: "The 1980s have seen unbelievable changes, breaking physical and political barriers which were unimaginable at the start of the decade. This is a clear statement that people's power and urge for justice cannot be denied or stopped by the power of guns or authority" (Yarmol-Franko 1990" p. 15). Recent events in the Soviet Union dramatically illustrated people's power. Perhaps the Soviets may rediscover the revolutionary commitment to participatory democracy through adult education personified by Lenin's wife, Krupskaya.

The second answer draws upon my training as an historian. Indeed, my doctoral dissertation was a history of the community development concept in the Canadian and American adult education movement, 1919-1960. In its origins, that concept was a mildly radical attempt by some of our predecessors, especially during the 1930s, to recapture participatory democracy that seemed to have been lost (Pyrch 1990). My dissertation was basically descriptive as I lacked the critical tools needed to explain the community development concept in a broader context of people's struggle to control their own destinies. I was unable to do what historian Michael Welton believes is "the need to contextualize educational history and to break from our romantic historiography" (Welton 1987, p. 2).

When I took up my professorial duties in 1987 after a few years in community development, I was compelled to retrieve my dissertation for publication and to rediscover historiography in preparation for teaching a graduate course on the history of adult education. I found that history itself is a discipline making connections between past, present and future. Historian E. H. Carr describes history as a "dialogue between the events of the past and progressively emerging future ends" (Carr 1961 p. 123). Furthermore, "the belief that we have come from somewhere is closely linked with the belief that we are going somewhere." Where are we going I wondered? I was helped in my musing by ecologist and libertarian Murray Bookchin who not only helped me to reflect on various futures but introduced me to the value of history at the same time. Bookchin (1989) writes about the importance of history since "never before has it been more necessary to recover the past, to deepen our knowledge of history, to demystify the origins of our problems, to regain our memory of forms of freedom and advances that were made in liberating humanity of its superstitions, irrationalities, and, above all, loss of faith in humanity's potentialities" (p. 184). About the same time that I discovered Bookchin's views, I was introduced to PAR by Orlando Fals-Borda during the Participatory Research conference at the University of Calgary in July 1989. A major component of PAR in his view is the critical recovery of history. He sees it as a practical means of helping ordinary people enrich their legacy. "What is more," he adds, "by salvaging these histories through a combination of idea and practice, there has evolved an increased self-awareness and self-reliance on the part of base communities and hence their power for independent action" (Fals-Borda 1991, p.155).

I was able to translate Fals-Borda's advice into the guiding philosophy for my course on the history of adult education. I encourage my students to reflect on their personal histories while relating them to official histories. This helps them become more self-aware, more confident in their own knowledge and more critical of authority. At the same time, we challenge each other to reflect on the future and how adult education might facilitate a healthy one. For myself, I am re-learning the value of history as a discipline and have become more responsive than ever to the philosophy of history.

I had other forms of knowledge that had been dormant for several years that came to life when the idea of a libertarian tradition began to form. I was a student of sixteenth and seventeenth century British history and learned about the libertarian strain in the revolutionary 1640s. I began to recall other lessons stimulated by my new interest. It now seems to me that PAR and related concepts, and their antecedents, represent an egalitarian and libertarian view of knowledge that the gatekeepers of official and expert knowledge reject. Those gatekeepers may use their authority to block that view. Elizabeth I of England suppressed 'prophesyings' in 1577 because they brought lay people together to discuss the bible. 'Prophesyings' were a sixteenth century version of our study circle that encouraged people to ask critical questions about their situation.

Answer three involves a stimulating visit to Nicaragua in September 1989 to attend a PAR conference sponsored by the International Council for Adult Education. Along with 115 people from 25 countries, I found myself not only sharing PAR ideas and experiences during the five-day conference, but saw the Sandinistas trying to live these ideas. I have written about the conference elsewhere (Pyrch 1990a) but would like to emphasize what a strong impact on me that visit had. I wrote: "I had no warning that what was happening is directly related to libertarian traditions that have not had such a good opportunity for revival in fifty years. What we see in Nicaragua is not some sort of aberration but something that represents a contemporary link with a global movement of humankind striving for unbound freedom" (p. 286). The Nicaraguan experience was like a shot in the arm. It seemed to me that meeting in a setting like revolutionary Nicaragua encouraged adult educators from many countries to speak out about their own quest for freedom in the ways it made sense to their own realities. I returned to my continuing education responsibilities challenged to act in accordance with this newly found tradition.

I realized, in fact, that my routine program planning work which lies in the areas of the environment and history already demonstrated a libertarian influence. This realization becomes the fourth answer to the question about how I know there is a libertarian tradition in the adult education movement. I can see it in my own work. The courses I run and the conference I organize intend to celebrate democracy by emphasizing authentic participation and encouraging collective action. I aim to democratize knowledge by trying to enlist all sides of an issue and give them equal opportunity to be heard. I intend to help people make connections between official knowledge representing the state, expert knowledge representing the professions and people's knowledge representing themselves. Native peoples have a major contribution to make in this regard, and participate in my planning committees and teach for me as well. I offer a course entitled "Indigenous knowledge and the environment.' Indigenous knowledge is a major part of a course I helped to design and manage for the Canada-Asia Partnership program underway for the past two years. This six-week course is entitled 'Community-based environmental protection.' PAR governs the process. Course content ranges from environmental science to the political economy of the environment to nutrition. Every effort is made to demonstrate the interrelatedness of all forms of knowledge and all disciplines - to encourage interdisciplinary approaches. This interdisciplinarity may be a part of the libertarian tradition because it aims to break down the barriers we have established between disciplines.

Elsewhere, the non-credit history courses I commission aim to develop learners free from the constraints of racism, sexism and other forms of oppression. For example, the course 'Rednecks in Alberta?' arouses serious questions about the validity of a stereotype that haunts Albertans. I am an active member of The University of Calgary human rights group that is concerned with any violation of individual freedom. The point simply is that my professional activities are strongly influenced by a respect for and commitment to the libertarian tradition.

The fifth and last answer may be obvious by now. Quite simply, I want this tradition to exist. If I am to continue to be committed to the movement I must know that a struggle for freedom is a fundamental part of it. This is what will sustain me as a professional adult educator meeting the demands of the millenium - a libertarian vision of the future. For instance, if the Gaia theory gains strength in the sense that we are able to transform competitive exploitation into cooperative synergy, our libertarian tradition might facilitate that transformation. If we learn to value indigenous knowledge we shall rediscover in us things that have long been dormant. We may "re-establish our contact with the conscience which is deeply buried in all of us" that, according to mechanical engineer Med Thring, may reconnect us with the fifth dimension - eternity (Thring 1990, p.44).

From this personal odyssey on discovering traditions, may I suggest four implications for continuing professional education. First, it is good to know something of the origins of one's profession, whatever your field. This gives one confidence, guidance and stimulation. It also may lead to finding a tradition one can relate to. As these years of uncertainty we live in continue, it helps to feel connected to some sort of tradition. That certainly helped

Tevya in 'Fiddler on the Roof.' Second, there lies within each of us an unique understanding of self in relation to one's profession. Self-reflective stories should be encouraged because they can lead to an understanding of one's own experience as it evolves. Seminars and discussion groups can be organized to help that along. Third, similar activities could be used to get us exposed regularly to new concepts to extend our intellect while encouraging action. PAR and critical social theory are concepts that have been doing that for me. What are the new ideas in the world and how can I learn from them? This encourages one to be open at all times and helps us reach beyond our grasp. Fourth, during these explorations, one might begin to develop a truely interdisciplinary vision. Any profession that relies only on one body of knowledge is ill-equipped to meet the millenium.

May I pay tribute to Belenky and her colleagues (1986) who introduced us to women's ways of knowing. Surely this was the inspiration for the choice of topic for this conference. They have helped us to lower our guard and to raise our expectations about the knowledge available to us in our quest for freedom.

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Title: Interdisciplinary Discussions of Professional Ways of Knowing: Some Preliminary Thoughts

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Abstract: Most people who engage in interdisciplinary analysis of professional ways of knowing probably believe that their work will be well received by the general professional community. This assumption, however, almost certainly is false.

It surely is accurate to say that everybody who engages in interdisciplinary analysis of professional ways of knowing believes that people in one kind of professional field can learn from people in other kinds of professional fields about the knowing, thinking and learning processes used in their own fields. Thus, for example, all law trained people who engage in such analysis believe that they can gain insights about the thinking skills lawyers use by attempting to understand the thinking skills used by doctors, journalists, engineers, and the like. Given this fact, it is easy for people who engage in this kind of interdisciplinary analysis, and who converse regularly about it with other like-minded people, simply to assume that everybody in the various professions shares their views. That assumption, however, almost certainly is false.

Historians and sociologists who study the nature and development of professions now generally believe that professions come into being, and then continue to operate, in a more or less standard way. (Friedson, 1988; Larson, 1977). The process starts, these students of the professions believe, when groups of people who are doing a particular kind of work begin to claim that the work they do involves unique and exclusive knowledge and skills. Then these groups begin to create a highly technical language that they use when they talk about their work. As this technical language grows more complex, its existence begins to reinforce these groups' claims of unique and exclusive knowledge and skills. Furthermore, as occupations become professions, the people involved usually attempt to create highly restrictive schooling and licensing requirements for entry into the profession. These requirements ultimately allow the professions themselves to be the sole judges of who will and who will not be allowed to do a certain kind of work.

Some students of the professions also believe that after professions establish themselves they must constantly struggle to protect and extend their "jurisdiction," i.e. the area of work over which they claim exclusive control (Abbott, 1988). Professions do this, in turn, in two ways. First, professions constantly try to prohibit outsiders from doing work that is related to the work done by members of the profession itself. Thus, for example, doctors constantly try to prohibit registered nurses or psychologists from doing "medical" procedures. (And, registered nurses constantly try to stop licensed practical nurses' from doing certain kinds of work and psychologists constantly try to stop social workers from doing certain kinds of work.) Second, professions attempt to extend their jurisdiction by attacking the jurisdiction of other professions. They usually do this by claiming that some aspect of the other profession's work, usually some peripheral aspect, should be shared or even stripped away from that other profession. Dentists, for example, are presently fighting doctors regarding "oral surgery." Both professions insist that they should control this jurisdiction.

Interestingly, a similar historical and developmental pattern seems to exist in connection with academic disciplines in the higher education setting. Commentators on the history of academic disciplines now suggest that disciplines come into existence when groups of academics within the higher education community begin to claim that they alone possess unique knowledge or skills in connection with a specific subject (Becher, 1987; Becher & Huber, 1990; Clark, 1987; Cohen, 1985; Slaughter & Silva, 1983; Wilshire, 1990; Wilson & Gaff, 1967). Then these academics create a highly technical language that they use when they talk about their work (Booth, 1983; Cheney, 1988). The existence of this technical language reinforces these groups' claims of unique and exclusive knowledge and skills. In addition, these groups of academics often create highly restrictive schooling requirements, requirements that effectively allow the groups themselves to be the sole judge of who will and who will not be allowed to do a certain kind of work.

Not surprisingly, academic disciplines, like professions, seek both to protect and expand their own jurisdiction (Becher, 1987; Becher & Huber, 1990). Indeed, as Clark notes they spread themselves "imperialistically far beyond initial boundaries" (Clark, 1987, at page 30). The discipline of biology, for example, has in recent years launched repeated jurisdictional attacks at the disciplines of zoology and botany. And the discipline of chemistry is now cannibalistically attacking the discipline of biology. Again, however, battles in this context tend to occur, at least initially, at the margins of the disciplines involved. Frontal attacks on core aspects of target disciplines seem simply not to work.

The facts just described reveal a critically important point. As noted earlier, the underlying premise of all interdisciplinary analysis of professional ways of knowing is the notion that people in different professions can learn about the thinking processes used in their own professions from outsiders to that profession. That is, after all, what interdisciplinary work is. It should be clear now, however, that that particular notion flies directly in the face of a core idea shared by the professions and academic disciplines, namely, the notion that professions and academic disciplines are the repositories of unique and exclusive knowledge. By definition, the knowledge and skills possessed by professions and academic disciplines cannot be possessed, and cannot be understood, by outsiders to the professions or disciplines. Indeed, if outsiders to a particular profession or discipline can understand the skills and knowledge of that profession or discipline, then that profession or discipline may well not be a profession or discipline at all.

Nor are these the only problems likely to be encountered by people who engage in interdisciplinary analysis of professional ways of knowing, or, better said, at least one group of people who engage in such analysis. Some empirical evidence, and a great deal of anecdotal experience, suggests that many people in the professions and the substantive academic disciplines, particularly many people who teach in the prestige professions (Bok, 1986) or prestige disciplines (Becher, 1987), display particularly intense disdain for the work of people associated with the discipline of education itself (Becher, 1987; Clark, 1987). Becher, for example, interviewed hundreds of faculty members in an attempt to discover how academic disciplines formed and how members of different disciplines relate to each other. People in the field of education, it seems, clearly came out at or near the bottom of the hierarchy. Further, as Bennett notes, education faculty generally have the lowest pay scale in the university (Bennett & LeCompte, 1990, at page 121). This clearly suggests low prestige for this field.

Several of my own experiences provide supplementary anecdotal evidence. A number of years ago, I sent some of my own interdisciplinary work to an extremely well-known law school professor at one of the most elite universities in this country, a university, incidentally, that is also the home of some of the country's most prominent thinking skills researchers. This law school professor, whose sister, it seems, is a grade school teacher, was kind of enough to respond. He flatly stated, however, that though he enjoyed reading my work he believes that legal educators simply can learn nothing at all about legal education itself from the field of education theory. A similar incident occurred a few years earlier. During a plenary session of a conference on law school teaching, I suggested, from the floor, that perhaps the people in the room could learn something about the topic being discussed from the general education literature. A hushed silence followed. Several other people then spoke, each clearly representing the views of most of the people in the room. My suggestion, they noted, was preposterous.

One last personal example again seems representative. For several years I have been informally monitoring the contents of the Journal of Legal Education, the principle forum for works on legal education. That monitoring has revealed that virtually all of the work that appears in that journal fails to cite anything at all from the general education literature. Although some exceptions occur, for the most part a reader could scan entire issues or even entire volumes of that journal and not encounter a single reference to the general education literature.

To be sure, not all professional disciplines display such blatant disdain for education theory itself. Medical educators, for example, often point to the presence in many medical schools of administrative or even faculty members who have Ph.d's in education. Furthermore, the journal Academic Medicine regularly publishes articles that profusely cite the general education literature. A recent study of medical school faculty suggests, however, that the real world of medical education may be very different from the interdisciplinary world just described (Nelson, Clayton & Moreno, 1990). When questioned about their views on the use of education theory in medical education, many medical school teachers responded with what clearly is the official party line in medical education: medical educators, these people responded, clearly can benefit from the use of general education theory. But, crunch time occurred with some follow up questions in this study. Virtually none of the surveyed teachers actually knew anything about general education theory and virtually none of them acknowledged actually using any of that theory in their own personal teaching.

Several things probably lie behind the particularly intense disdain that anecdotal experience suggests people in the prestige professional schools feel toward people in the discipline of education theory itself. First, most universities have made carefully considered decisions indicating that teaching itself must take a distinctly secondary role to scholarship. But, if teaching itself is a marginal activity in most higher education institutions, and if the discipline of education theory is principally about teaching, then the discipline of education theory is itself marginal in such institutions. Second, most of the most prominent members of the most prestigious professions are men. Teaching itself, however, has traditionally been considered a "feminine" kind of profession. Thus, some of the special antagonism that so many men in the professions and in the professional schools feel toward education experts probably is a manifestation of residual sexist attitudes. Third, anecdotal experience suggests that many of the people who teach in the schools of the prestige professions believe that people in the field of education itself are people who lacked the intellectual ability to gain admission to the schools of the prestige professions. To a certain extent, of course, this is true, at least in connection with teachers themselves rather than academics who study education theory. Regardless of its accuracy, however, this perception of hierarchy allows people in the prestige professional schools to look down on people generally in the field of education.

One additional point in this context must yet be made. As noted above, professions and academic disciplines must constantly defend against jurisdictional attacks from other professions, attacks that usually involve assaults on peripheral rather than central aspects of the target professions' jurisdiction. This peripheral / central attack distinction, in turn, provides yet another explanation for why people in the various professions so strongly disdain the work of education theorists.

Professions and academic disciplines perpetuate themselves and control their own jurisdiction in large part through the methods they use to educate new members. In other words, new-member education is at the heart of the professions and academic disciplines. That fact reveals, however, that attempts made by people with expertise in education theory itself to comment on the educational processes used in particular professions or academic disciplines will necessarily be viewed by members of those professions or disciplines as central rather than peripheral jurisdictional assaults. Such central assaults, of course, will be met with most furious resistance.

Three points in summary can now be made. First, since professions and academic disciplines cannot be such things unless they claim exclusive and unique skills and knowledge, members of professions and disciplines necessarily will resist attempts at interdisciplinary analysis of professional ways of knowing. Second, since people who teach in the schools of the professions schools are members of both profession and academic disciplines, they are likely doubly to resist interdisciplinary analysis in this context. Finally, the interdisciplinary work of people with expertise in education theory itself is likely to be particularly unpopular to members of professions, particularly the prestige professions, and academic disciplines. For all of these reasons, it surely is safe to say that the path ahead of people who wish to do interdisciplinary analysis of professional ways of knowing is a path strewn with many, many obstacles.

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THE STRUCTURE OF PROFESSIONAL LEARNING AND PRACTICE: A FRAMEWORK FOR DISCUSSING THE 'PROFESSIONALS WAYS OF KNOWING'

Thelma Barer-Stein

Learning and habitual practice form the essence of all cultures, including that of professionals. Do professionals have special 'ways of knowing'? How do professionals learn to become professional and how do their knowledge and skills become habituated? Extended into innovative ways? Is there some mysterious quality of 'professional knowing'? These questions and others will be explored against the framework of THE PROCESS OF EXPERIENCING THE UNFAMILIAR (LEARNING), which emerged from recent phenomenological work. This process, together with other models from selected literature will be critically examined for implications for the 'professionals' ways of knowing'.

OPENING REFLECTIONS

Learning and habitual practice form the essence of all cultures, including that of professionals. Together with the larger cultures of their struggle to distinguish themselves by virtue of a definable history, core of the practices and traditions, rituals and symbols as well as language. Culture seems to represent the totality of all aspects of daily life learned by an individual, yet paradoxically, these are in a state of continuous change. Culture is acquired, transmitted, and enhanced through and by human learning.

How does a person become a professional? While professionals themselves wrestle with definitions, communities view professionals as people with accredited skills and knowledge to whom they willingly defer and remunerate accordingly. Professionals seems to be concerned with the details of being professional; the public seems to have accepted their specialized culture, but others concern themselves with what is involved in the process of becoming professional.

Studies of 'becoming' professional are not unusual; those of Becker, Geer and Hughes (1961) — Boys in White — and Simpson, Back and Ingles (1979) — From Student to Nurse — are classic observational studies of the process of becoming a professional. Yet few studies probe the affective domain of this learning as concisely as Blum & Rosenberg's 1968 study of psychotherapists, Argyris and Schon's 1977 study of increasing professional effectiveness, and Collins' 1983 penetrating analysis of competency. Schon's 1987 work on educating practitioners highlights most clearly the concern expressed by the others in varying ways, of the need for professional learning and practice to embrace both competency and artistry, objectivity and subjectivity with special emphasis on the role of reflection, common sense knowledge, and inner resources.

In short, they speak to the need to encompass the wholeness implied in being human into also being a professional. The learning of a culture implicates all the domains of learning: cognitive, affective and psychomotor. Moreover, I will argue with them, that there is a need to recognize, understand and make use of both left-brain (logical, analytical) and right-brain (perceptual, creative) learning and how they can effectively contribute to reflection; and most importantly, I will argue for the need to comprehend the attitudes/behaviours of the universal process of learning : EXPERIENCING THE UNFAMILIAR.

ABOUT THE PROCESS OF EXPERIENCING THE UNFAMILIAR (LEARNING)

Learning is a process we undertake in order to make something or someone more familiar. We have no need to learn what we already know, unless we deliberately exhume that knowing for re-examination, because something has made us question what we though we knew. Usually we are conservative about the effort expended in learning; we learn because we want to, we learn as we need to, and then only what is relevant.

The PROCESS that is briefly described below emerged unpredictably and serendipitously from my phenomenological work that I though was focussed on discovered the essence of culture (1985). It was not so obvious to me then, that what emerged was the essence of culture: learning. Subsequent reflective refinements (a philosophical work is never 'finished') found their expression in other works in such disparate fields as literacy (1991), art (1989), teaching (1987a), philosophy of learning (1987b, 1987c) as well as culture adaptation and culture shock (1988). This variety of reflective implications of the PROCESS were possible because of the universality of learning itself -- embedded as it unquestionably is, in most human activities and characteristics.

THE PROCESS OF EXPERIENCING THE UNFAMILIAR (LEARNING) describes the sequential underlying phases of attitudes and behaviours of one person choosing to move through a process to experience more closely what initially was unfamiliar, novel, different. The five phases depict five distinctly different attitudinal/behavioural shifts that a person feels and expresses in language and/or behaviour as she or he chooses whether to progress, remain or regress from any one phase — or to exit entirely. Each such PROCESS represents but one learning, yet the individual's progression is impacted by all the complexity of factors, relationships, knowledge, skills and so on accumulated to this point. The period of time spent in any phase may be so fleeting as to be almost imperceptible, or may be so laborious (or enjoyable) that the person may be in one phase for years. At any point in anyone's life, many such PROCESSES may be engaged in.

THE PHASES

PHASE I: BEING AWARE represent the opening flicker of attention that provides the access: something is of interest here. One has to be aware of something in order to distinguish it from anything else. The person's attention has been ignited by the three intertwining essential components or themes of this phase. These are pushed, snowplough-like throughout the process in varying degrees of dominance and intensity. RELEVANCY represents meaning and connectedness; CURIOUSITY represent the desire or need to know; ENTICEMENT represents the bait.

PHASE II: OBSERVING represents initially the casual 'just looking' attitude/behaviour that begins as SPECTATING, which refers to a watchful attending distant from the source of the interest. As interest intensifies, the person slips into the second essential component of this phase named SIGHTSEEING which refers to a more focussed but still marginal attending.

PHASE III: PARTICIPATING, ACTING, OR TRYING-OUT: represents expressed confidence, willingness to enter into the doing, and increasing sense of belonging. The attitudes/behaviours here are characterized by four increasingly assured essential components, named to help describe them as WITNESS-APPRAISING, which refers to the superficial self-appointed ability to make assessments of what is going on. This helps the person glide effortlessly into the MISSIONARY, referring to the exuberant telling-everyone, giving-everyone, of a new-found interest. This is closely accompanied by CLUSTER-JUDGEMENT, which refers to the perception and judgmental sweeping up of all individual differences into a we-they dichotomy dividing the world into those who are involved in this interest and those who aren't. The final essential component, LIVING-THE-LIFE shunts aside the earlier Relevancy and Curiousity in favor of self-imagined Enticements and visions of knowledge and skill that heighten still further the person's participation and confidence.

PHASE IIIa: ROTE INTERNALIZING represents the kind of internalizing that occurs simply through repetition and continual reinforcement in the form of support by peers and respected others, reward, incentives. ROTE INTERNALIZING represents the presenting, demonstrating and modelling of knowledge/skills that are then repeated, memorized, copied or imitated often to the point of becoming second nature, or habitual.

PHASE IIIa may represent the end point of becoming familiar with an interest and the person may (as at any of the other phases) exit from this interest altogether and become aware of something else.

PHASE IV: CONFRONTING represents the only point in this PROCESS that is not subtle. It refers to coming face-to-face abruptly, unexpectedly with an unpredictable issue or happening that jolts or shocks. But such an issue or happening may also be in the form of contradiction, doubt, dilemma, that emerges gradually to CONFRONT the person with that inner churning discomfort of gnawing doubt, the tension of anxiety or the creeping fingers of fear. The 'brick wall' that one feels faced with, represents impending need for change. The person has a sense of Something isn't right here. The essential components depicted in this phase refer to choices that the person may make : PASSIVITY, WITHDRAWAL, CONFLICT. As in other phases, the individual may also choose to exit altogether, regress to a previous phase or remain, locked for a period of time in any one of the choices, or in any repetition of them.

This is a critical phase, requiring a SIGNIFICANT RESOURCE which may be a supportive, informed and respected other, or may appear in the form of inspiration as one might glean from a movie, a book, a chance remark or conversation — that tips one's decision, unlocks the deadlock and provides the ability for, hopefully, progression into the final phase.

PHASE V: REFLECTIVE INTERNALIZING begins as a person enters into attitudes/behaviours of questioning. These include the 'how' and 'what' questions and the heightening of CURIOUSITY that seemed to be subdued during PHASE IIIa. This final phase also represents another choice. The essential components of this phase can be collected into a fourfold sequence that I have named THE SH'MA derived from the Hebrew word shema meaning 'to hear' and which here is used to represent together the four-fold sequential steps of LISTENING, DIALOGUING, CRITICAL RECURSIVE REFLECTING and ACTION. The outcome of THE SH'MA in this phase is similar to the outcome of PHASE IIIa: familiarity and habituation.

LISTENING refers to the close and responsive attentiveness to what is heard and seen. DIALOGUING refers to a reciprocal and developing exchange that exhibits an openness of the self and a genuine willingness to entertain differing views, ways, possibilities. CRITICAL RECURSIVE REFLECTING refers to the deconstructive analyzing and the interpretive reunion of possibilities and their possible meanings and place in one's life and/or work. This may involve here an extension of imagining, remembering, visioning, inferring, projecting, reassembling and rearranging all that was collected in an intentionally incomplete effort to make sense, find meaning, yet remain receptive to yet other possibilities. The returning again and again to such reflecting represents the returning again and again to ask What is the meaning here? What makes sense? ACTION means the surge to act propelled by the intense and persistent reflection that has now provided not only meaning and sense, but a self-derived reward: UNDERSTANDING.

This last phase could also be called APPRECIATING, UNDERSTANDING or INVOLVING -- those attitudes and behaviours only derived from personal CURIOUSITY, RELEVANCE and the ENTICEMENT of appreciating, understanding and becoming involved in a person or interest. PHASE V is its own reward.

HIGHLIGHTING SOME ASPECTS OF THIS PROCESS

Such a cursory examination of a complex process of an individual's attitudes/behaviours as the may progress and unfamiliarity to familiarity is difficult in a short space. These highlights will be important for the ensuing discussion of relevant literature.

1. THE MODES OF THINKING: There are two dominant modes of thinking within this process. The one in use throughout the first three phases is called THE REFLECTIVE PAUSE and is familiar to all of us with its collecting of information, and questioning what has been collected, comparing with what is known, and finally selecting what seems important. It is brief, superficial, but useful. The second mode occurs only in PHASE V: THE SH'MA.

2. TWO PATHS TO HABITUATION: Habituation can occur at the end of PHASE IIIa: ROTE INTERNALIZING and also at the end of PHASE V: REFLECTIVE INTERNALIZING. The former is acquired through repetition and rewards applied externally, while the latter is acquired through intense effort and deliberate need or desire to make decisions, resolve doubt, dilemmas, contradictions, problems and to arrive at personally relevant meaning and sense. PHASE V represents also an inner dependency rather than an external one, and personal responsibility and commitment.

   Yet for both paths of habituation a paradox exists: the more familiar one becomes with something, the less one is aware of it, and it soon slips into the foggy realm of suppositions, assumptions and "what everyone knows and takes for granted".

3. The opening phase represents INFORMING, the next two phases represent KNOWING, while UNDERSTANDING is only possible with the personal involvement of coming fact to face with some kind of change or unpredictable issue that must be confronted with intensive REFLECTIVE INTERNALIZING and THE SH'MA.

4. Knowledge and skills are presented, demonstrated and modelled in the first three phases in order to transmit them to others, but they are not changed in this process. Knowledge and skills are only transformed in the mind of a person involved in PHASES IV and V. Change, innovation, creativity, reorganization, improvisation all emerge from these last two phases.

A CRITICAL LOOK AT SELECTED LITERATURE WITH IMPLICATIONS FOR PROFESSIONALS

As I surveyed literature dealing with professionalization (Vollmer & Mills, 1966), educating professionals (Schon, 1987; Schein & Kommers, 1972; Jarvis, 1983; McGrath, 1964; Barnard, 1938 & 1968; Schon, 1982; Argyris & Schon, 1982) as well as two that seemed to me to be related (Collins, 1983 and Edwards, 1986), I was struck by a concern throughout these, explicitly or implicitly, of the necessity for exposing students, neophytes, and trainees to the special ways of knowing of professional. The implication that professionals do indeed have 'ways of knowing' appeared in such phrases as Jackson's (1970) "mysterious and sacred elements, access to which is the privilege of professional; Collins' (1983) reference to the fact that "however all-embracing competency-based education may appear, there will always be important dimensions left out"; Argyris & Schon's (1977) "teachers... leave intact the hidden magic of the professional design process".

Such mysterious, magical, omitted dimensions of learning may not be deliberate, but may result of the difficulty we each feel in attempting to bring to the surface of our conscious awareness what has already become habituated. Although the habituation occurring naturally after repetition is more common, that habituation resulting from REFLECTIVE INTERNALIZING, the reflective, silent realm of creativity may not only be obscure, but more importantly may not be professionally recognized as a legitimate source of enhanced knowledge and skills. Blum & Rosenberg (1968) in fact, rail against that "professional socialization... delineated by a normative order to which all members diffusely subscribe". Barnard (1938) completes his famous Princeton University Address: Mind in Everyday Matters by emphasizing the "artistic principle of the mind" and the "insufficiency of logical processes... the desirability of their development in intelligent coordination with the non-logical, the intuitional, even the inspirational processes..." Schon's (1982; 1987) work seeks to fill that gap between studying to become a professional, and actually practicing as one. His reflection-in-action: "thinking what they are doing while they are doing it" hearkens to Dewey's (1933) How We Think with its potent plea for providing students with puzzles and problems instead of definitions and texts to be memorized, and his emphasis on reflection: "learning is learning to think... it is not learning things, but the meaning of things..." (see also Barer-Stein, 1987b).

The learning undergone by professionals differs from that of other occupations in that it is more extensive, more intensive and of longer duration. Their knowledge and skills become habituated in the same ways as do those of other studies: through ROTE INTERNALIZING and through REFLECTIVE INTERNALIZING and the enhancement of that body of skills and knowledge that acquires attitudes and behaviours are, as for others, only achieved through REFLECTIVE INTERNALIZING. The mysteries and magic of improvisation, creativity, innovation, reorganization and change can belong to any person with the responsibility, persistence and commitment to deliberate and consciously move from the challenge of PHASE IV CONFRONTING into the creative realm of intensive effort of PHASE V: REFLECTIVE INTERNALIZING.

Much has been written and accomplished since Sperry's (1968) and Springer and Deutsch's (1981) work on right and left brain thinking that corroborates the need in all types of education for serious consideration of 'how we think'. What is important too, is retaining a conscious and deliberate awareness not only the modes of thinking that are possible for all of us, but also of the totality of the PROCESS OF EXPERIENCING THE UNFAMILIAR (LEARNING), so that all professional education planning and assessment of students take into consideration that complexity of human learning, and how it may be acquired, transmitted, and enhanced by such retention of the conscious awareness that learning is a PROCESS, and EXPERIENCING THE UNFAMILIAR only occurs in phases, and that time, support and guidance is required.

Note: The complete references as well as a diagram depicting the PROCESS will be provided to all participants at the seminar.

Reasons of the Heart

The Distinctive Ways of Learning and Knowing Discovered in a Study of Leaders Working for Social Transformation

Dean Elias

Abstract: leaders for social transformation develop within specific webs of relationship and contexts of meaning, and through specific transformative learning experiences. These factors are described, and implications for practice suggested.

This paper describes the results of an investigation into the patterns of learning experiences in persons who are leaders in work devoted to social transformation. The intent of the research was to discover whether there may be predictable patterns of learning that appear to shape these people. The guiding expectation was that, should such patterns exist, we can infer from those patterns principles to guide the design of learning experiences likely to produce such people. The method employed was life history interviews with twelve persons who met the adopted criteria. The sample is gender-balanced and racially diverse. The results address ways of perceiving the world and foundational attitudes and values that may apply to all professions rather than knowledge specific to any one.

Three questions seem central to understanding the development of leaders for social transformation (LST), and this paper is organized in response to them. How do LST acquire a sense of responsibility for the whole of a culture or society? How do they develop values that invite social transformation? What produces the chutzpah to take on such a vast commitment? In combing through the life histories, five responses stand out. Taken in combination, these five responses address the intent of the three questions: just as it takes three questions in combination to operationalize the intent of the research, so it takes five responses in combination to provide a satisfying answer.

To illustrate the responses, I will use quotations from the life history of Catherine (a pseudonym), one of the sample of twelve. Catherine is a 51 year old married Caucasian woman, the mother of three grown daughters. She is an advocate for international security systems that recognize the limits of national sovereignty in an increasingly interdependent world, a leader in the global education movement, and in all of these, a thoughtful feminist. She works through several media: she edits a journal; has written two books, numerous articles and monographs; is a public speaker and educator working with various publics -- ranging from heads of state to religious communities -- in many parts of the world, and is centrally involved in several projects dealing with global interdependence.

The first response to the three questions: themes developed in childhood experience provide a world of possibilities for adult development, both in terms of attitude and in terms of the content of adult concerns. One centrally relevant attitude Catherine developed while growing up was a sense of entitlement to assert her authority about issues of fundamental fairness and justice.

> As I was growing up, my father and I went at each other a lot. I was the first child with everything: for example, I had to fight with him about the right to drive, whether I could drive the car. He has a clear idea about what roles are for women. I was a very strong-willed person, and so is my father, but I had things in me I felt too strong to submerge. We didn't fight that much directly, except I wasn't afraid to test those things out with him.

The content of Catherine's current work for global security systems also has its roots in her childhood. As an eighth grader, she won an American Legion essay contest in response to the question of "What to do When the Bomb Falls."

> So I went to the American Legion and got this prize, cookies, Coca-Cola, and a $10 bill, and you look at these things and you think, you did a good job, Kate. And then you think, there's gotta be something more, tell me the answer, what are you guys going to do to stop this? You're aiming rifles at that big thing up there? And that for me blew apart my sense of trust in the adult world, that you could really trust the adult world to provide a safe and secure place. So I thought this is an insane world, this is really all a bunch of nonsense, so what is the real answer. That question was with me for a long time.

The second response to the three questions: the self is embedded in a web of empathic and validating relationships with individuals and groups who are committed to similar values and intentions. While the idea of relationship comes alive in the dance with a specific person or group, the key here seems to be the web of relationships. Two stand out. First, Catherine's principal collaborator in her work is her husband. Second is the significance of her relationship with communities of Sisters, clergy and laypersons in the Roman Catholic Church who are struggling with fundamental issues regarding the status and role of women and regarding human rights more generally. Catherine observed how a Bishop, a friend who was experimenting with more active participation of women in leadership roles, would only affirm the Church's more conservative position in public statements. She confronted him about the apparent contradiction, and in response, he invited her to spend some time with him to discuss what he experienced in his role.

> Through these discussions I realized how there are certain pressures that come from the Church's systems and structures. The men in the Church who are priests and bishops are so insecure about their own sense of belonging, maybe because they are not married, they don't have a family, they don't have a community like religious sisters have a communities, and even religious orders of priests like Benedictines and Franciscans have a community. I felt a real sense of bonding with this person, that we were in

> it together, and I would stay in this Church because this is something that you just don't leave, this is a community in pain. We are a bonded community, a community of struggle, a community of meaning.

The community also is grounded in a framework of values and a perspective on the mystery of life on earth. For example, Catherine remembers influential learning experiences when in college, a Roman Catholic women's school:

> They were teaching the social encyclicals of the Church: I became familiar with that legacy of the Church -- the legacy of papal social teachings, social justice teachings related to labor, human rights, peace and justice. That for me was an eye-opener.

The third response to the questions: the self is embedded in an ongoing history, has a sense of generational continuity, with shared experiences, values and attitudes. Catherine's sense of shared history also is experienced through the Roman Catholic Church, and in a way that is larger than the Church.

> But my deepest experience was a biology course, taught by a joyful nun who combined an earthy love of all life forms, a spiritual evolutionary vision and a scholarly commitment to the scientific method. For her all life was sacred, a miracle, from the simplest cell to the every human being. In the immensity of time, in the full evolutionary scope, nothing that had ever been was without purpose and beauty, without its own truth, its contribution to the ongoing process of life. In the final weeks of the year, with all life laid out in evolutionary continuity, we saw ourselves in that chain, heirs to all that preceded us, links with all that would come.

She also senses a shared history with those women who have been struggling over the millennia for justice and peace.

The fourth response to the questions: the self discovers that her own social order and culture is one among many, and part of a larger whole; further, that the health of the part and the health of the whole are interdependent. This is what Mezirow calls perspective transformation. Catherine spent two years in Kenya in the early Sixties, serving as a teacher in schools set up by the newly independent government. She was struck by the juxtaposition of satellite monitoring stations with nomadic tribal groups still using the bow and the spear to hunt and fight, and by the immense political-economic-social transformation happening to the Kenyan people in the course of one generation. In her school were students from eight tribes:

> The only thing that unified them was a sense of getting the British out and having their own country. But there were lots of things they didn't have in common: language, some were from pastoral groups, some from agricultural groups, some from semi-nomadic groups. In light of how strong ethnic identities are, national identity is not natural. And at the same time, they were becoming part of a global world. The nation-state is one thing, but there was another globalization process that was already advancing. And the reason they had to become a nation state was so that they could function in that world. So you realized on the one hand it's not natural to be a nation-state, we have to work very hard at it, and it's not the final place in history. There will be multiple levels of structure within the global unit, from ethnic all the way through to global structures that are going to be necessary, so we're going to have to be able to operate on all those levels at one time.

The fifth response to the questions: the self develops the apperceptive habit of co-creating environments for learning and intentional change. In the early Seventies, Catherine and her husband wrote a very successful book examining "the national security straitjacket in global systems." She wanted to pursue a doctorate in peace education and global interdependence, but no such program or degree existed.

> I felt that someone should begin teaching it, so I just created a course and sent it around to colleges in New Jersey and I said, "here's a course: I'm educating for global interdependence and I'd like to start a teacher's institute.

A department head at a Jesuit college liked the idea, and helped launch the project as a summer institute that continued for years.

> Doing the Institutes gave me a certain amount of confidence because, who was I to do this? I didn't have a doctorate, there was no place I could go for one. The teaching put me into a new kind of gear, into the question of building a discipline: how do you build a legacy in a field? How do you create that? When I went into it, I wasn't thinking this would be a profession. I just said, "somebody's got to do this and I might as well try." And then it became a profession.

Summary and conclusion: Catherine entered her young adult life with a legacy from childhood -- with an attitude that she is entitled to confront authority over issues of principle, and with fundamental questions about war and peace. She experienced herself within a web of empathic and validating relationships with others who share her values and commitments. She experienced herself embedded in a history, both that of a community of struggle for human liberation (her perception of the Church) and that of an unfolding evolutionary pattern. Her perspective about the world she shares was transformed by an immersion in quite a different culture, and she perceived not only the differences, but also that the well-being of each depends on the well-being of all, that all are interdependent. Finally, she responded to a perceived need in the world and created not only a new program, but the beginning of a new profession. She experienced herself as a co-creator of her world.

To return to the three formative questions: the series of responses in combination seem a satisfying answer to the three questions. My hunch is that Catherine was prepared to perceive systemic complexity and interdependence in the world because she experienced that through her whole-hearted participation in a web of intimate relationships with others who share a common vision of an emancipated world, and with whom she shares deeply the pain and suffering that accompany struggles for emancipation. She learned empathy for the whole. Her experience in a different culture transformed her perspective, and enabled her to see the whole. She discovered transformative values through the traditions she embraced, both the Church's tradition of social justice and the intellectual tradition which perceives the evolutionary potential of human beings. She acquired the chutzpah to engage her world as a transformationalist first within her family, as a sense of entitlement to confront authority on the basis of principle, and second in her response to what she perceived as an important unfilled need in the world, that is, creating a new approach to education and thus a new profession.

Implications for practice with adults: space permits only pointing in a few directions. First, learners can be helped to discover their own story, the themes they carry forward from childhood and adolescence, both to celebrate and build on them, and to be able to benchmark progress and change directions if that seems appropriate. Second, educators can pay attention to the quality of all relationships influencing the learner -- of course, beginning with student-teacher and student-student, but also helping us all reflect on and therefore be able to constructively influence all our relationships, or even change them. Third, educators can help learners access a history that provides context for their lives, we can challenge learners to discover and celebrate their own history. Fourth, educators can facilitate learners' immersion in a different culture; if going abroad is not feasible, North America has the benefit of a myriad of ethnic, racial and class cultures. Fifth, educators can create conditions within which learners have to co-create their learning and working environments. All of these seem familiar, and that is promising. The key may be the quality and coherence of the whole. We can't "produce" leaders for social transformation, but we can create conditions for learning that increase the likelihood that such leaders may emerge; and it's time.

SITUATED COGNITION AND COGNITIVE APPRENTICESHIP: IMPLICATIONS FOR CONTINUING PROFESSIONAL EDUCATION

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Abstract: A form of cognitive apprenticeship for use in professional education and continuing education is described along with indications for its use.

Several hundred instances of professional education and continuing professional education were observed. Interviews were conducted with learners and their instructors about the forms of instruction that they considered to be most meaningful and helpful in learning to perform satisfactorily as professionals. Many of them identified a type of instruction which does not appear to have been described in any detail in the professional education or continuing professional education literature. To be sure, **elements** of such instruction have been described, but the ways in which the learning activities are sequenced and handled varies somewhat from that typically recommended.

In such instruction, the "what", "how", "when", and "why" (West, Farmer, and Wolff, 1991) of professional practice are learned and not merely declarative knowledge. The interviewees' descriptions clearly referred to something other than on-the-job training and observational learning per se. Although they attested to the effectiveness and efficiency of the approach, none of the interviewees had a name for it.

Analysis of the data resulted in the identification of the approach as a form of "cognitive apprenticeship" (Brown, Collins, and Duguid, 1989; Collins, Brown, and Newman, in press). A literature search revealed descriptions of how cognitive apprenticeship has been used to help children, youth, and college-age students learn reading, writing, and mathematics. For these purposes, it has yielded some impressive results. The literature contained no descriptions of cognitive apprenticeship developed explicitly for use with adult learners in general, with professionals or with those seeking to become professionals.

For professionals and those studying to enter the professions, learning to perform acceptably in a cognitive apprentice is not the same as: learning from on-the-job performance; enrichment learning; learning novice behavior; or competency-based instruction.

The following description of cognitive apprenticeship[1] was developed by the authors, based on findings from the observations and interviews and our own use of cognitive apprenticeship in a variety of professional and continuing professional instruction settings.

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[1] The description and subsequent discussion refers to the use of cognitive apprenticeship in both professional and continuing professional education.

Description of Cognitive Apprenticeship for Use in Professional Education and Continuing Professional Education

Cognitive apprenticeship combines and sequences reception learning, guided inquiry, and autonomous learning. Learners bring to cognitive apprenticeship knowledge from the disciplines and sciences, relevant applied fields, and experience (Farmer, LeGrand, and Buckmaster, 1989). Provision of additional "prerequisite" or "enriching" information prior to the cognitive apprenticeship experience is kept to a minimum.

Cognitive apprenticeship for use in professional education and continuing professional education consists of the five sequential phases described below. Use of italicized words here is similar to their usage in descriptions of other forms of cognitive apprenticeship.

Phase I: At the heart of such cognitive apprenticeship is **modeling** a real-life activity learners want to be able to perform satisfactorily in the real world. Modeling is done by a person(s) able to do the activity acceptably well. A key is that learners observe the entire performance of the activity and not merely subskills. Observing the model do the real thing enables learners to develop a mental model, a schema, of what doing the real thing looks like.

While doing the modeling, the model states aloud (**articulates**) the essence of what he/she is thinking. This can include a description of the tricks (**domain-specific heuristics**) he/she has learned that help one do the real thing. Continuing professional educators who are trained and experienced as practitioners in the profession can model doing the real thing satisfactorily. More typically, however, continuing professional educators must recruit others who can do the real thing acceptably to be the models.

What constitutes "satisfactory" performance to be modeled varies from situation to situation. The novice may want to learn to be able to do something proficiently. Being proficient means being able to do the activity in a minimally acceptable way, on one's own, while avoiding identifiable "no, no's") (Lippert and Farmer, 1984). Someone who is already proficient in doing the activity may want to learn how to perform the activity expertly in an acceptable manner. In either case, the relevant profession defines acceptable performances. A profession's definition of acceptable performance tends to be constrained in part by the expectations and regulations of society. What must be learned in order to perform acceptably is "**situated knowledge**" (Brown, Collins, and Duguid, 1989). It is "knowledge in action" (Ruesch, 1975) resulting from the types of "knowledge creation in professional contexts" described in Eraut (1985).

Phase II: After observing the modeling, learners are asked to approximate doing the real thing while articulating the essence of what they are thinking. That articulation includes stating prior to action what they plan to do and why. Learners are encouraged to **reflect** on (think about) the differences between their performance and the model's performance in order to develop self-monitoring and self-correction skills. Reflection is facilitated by discussion, alternation of model and learner activities, and learner problem solving under guidance. Learners' efforts to do the real thing are **scaffolded** to minimize risks and provide support when needed. This permits learners to approximate doing the real thing as much as possible. The support given includes **coaching** by the model who also supplies feedback about learners' performance and suggestions for improvement. Remediation is provided as necessary, based on difficulties evidenced by learners in the scaffolded performance.

Phase III: Learners, individually or in groups, continue to approximate doing the real thing. Coaching and scaffolding decrease as they demonstrate increased ability to do the real thing. (Lessening of the support provided is called "**fading**" in cognitive apprenticeship.)

Phase IV: This an **internal activity** phase. It begins when learners are able to approximate doing the real thing satisfactorily (sometimes only after a series of successive approximations). In this phase, they practice doing the real thing on their own (self-directed learning) and in their own ways within specified limits acceptable to the profession and society. Assistance is provided only on request.

Phase V: The model and learners discuss the **generalizability** of what has been learned. Such a discussion can serve as an advance organizer (West, Farmer, and Wolff, 1991), relating what has been learned in the cognitive apprenticeship experience to subsequent learning of a similar type in which learners may wish to engage.

An Example of the Use of Cognitive Apprenticeship in A Risky, Ill-defined Continuing Professional Education Setting

Dr. X, an orthopaedic surgeon, wants to learn an advanced procedure in foot surgery. He is already proficient in many basic procedures for treating foot deformities surgically. This procedure is risky to perform because it can potentially lead to serious patient injury. Its appropriate use is ill-defined: requiring expert and nonroutinized judgment in balancing a number of factors.

Dr. X engages in a cognitive apprenticeship at Z Hospital, a renowned center for foot surgery. He is taught by Dr. Y, an expert in the use of this advanced procedure. Dr. X watches Dr. Y perform the procedure. While he is operating, Dr. Y explains the key concepts, principles, and techniques being used along with specific ways (domain-specific heuristics) of applying them under certain circumstances. He is particularly careful to state the indications and contraindications for what he is doing as well as to identify pitfalls in such cases and how to deal with them.

When Dr. Y thinks Dr. X is ready, Dr. Y assists while Dr. X performs this procedure several times. Dr. X articulates his reasons for the choices he makes. Dr. Y provides less assistance as Dr. X improves. Then Dr. X does several operations on his own, continuing to identify and develop ways of doing the procedure that work well for him within the limits acceptable to the orthopaedic community, the medical community and society generally. Finally, the two surgeons discuss the generalizability of what Dr. X has learned in the cognitive apprenticeship to learning other advanced foot surgery procedures.

Implications for the Field

Calls for new approaches to helping adults to learn are appearing in the literature (Geber and Feuer, 1988). Based on insights from cognitive psychology, cognitive apprenticeship offers an alternative, not a substitute, for existing approaches.

Learners may discover or be capable of discovering on their own how to handle relatively well-defined problems and/or how to do relatively low-risk procedures satisfactorily through the use of common sense, logic, intuition, induction, or the application of general

principles learned from lectures and reading. Unfortunately, such methods are often insufficient for use with more complex, riskier, demanding problems.
The use of cognitive apprenticeship is particularly indicated when: (a) there is a realistic, low tolerance for error or risk to the learner and/or others; and (b) in learning to deal with relatively ill-defined problems. As Cervero (1988) has emphasized, many of the more important and pressing problems of individuals and society today are ill defined. The use of cognitive apprenticeship should also be considered when:

(a) the learner wishes to be able to do something at least minimally satisfactorily and is likely to be unable to do so on his/her own;

(b) the learner and/or the instructor have to be concerned about being effective and efficient;

(c) the learner has failed to learn adequately through other methods;

(d) to be minimally satisfactory, what is to be learned has to be done in one or more specified, approved ways in keeping with the expectations (norms) of society and a segment of society (i.e., a profession) rather than merely in whatever way an individual learner may prefer or be able to work out on his/her own. When such is the case, there are usually considerable constraints placed on both the end product of such learning and the learning process itself.

(e) the learner can learn something from observing and hearing a model performing the real thing that can not be learned easily any other way, because it has not been (perhaps can not be) codified in the professional literature (i.e., how and why the model reacts to real life decision points).

In cognitive apprenticeship, the learner seeks to learn to do the real thing from an instructor, yielding control of the learning experience to the instructor until he/she is able to do the real thing at least in satisfactory and safe manner. Then the learner increasingly takes control of the learning experience again as he/she learns to do the real thing in his/her on way within acceptable limits.

Reigeluth (1983) has noted that purely inductive approaches tend to be more effective but less efficient (i.e., more costly in terms of time and effort) than mainly deductive ones. They may also be riskier under high-risk circumstances. Being a combination and sequencing of deductive and inductive learning, cognitive apprenticeship is a form of instruction which capitalizes on the advantages of both forms of learning while minimizing their disadvantages.

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Professional Practice as Artistry

Edmund J. Ferszt

Schön (1983, 1987) asserts that the professionals' ways of knowing is a design process grounded in the artistic practice of "reflection-in-action", without explicitly defining the concept of artistry nor exploring its geneses. This paper examines these concepts from the perspective of the design professions as a means of enhancing our understanding of the professionals' way-of knowing.

This paper will explore the concept of artistry in professional practice first by reviewing the central concepts of this generic design process as articulated by Schön (1983, 1987) and then examine the descriptions and concepts of the design process emerging from the literature of the applied art and design professions. Finally observations about the artistry in the design process of the design professions will be discussed.

Literature from the fields of environmental, industrial and graphic design was selected because these fields represent a broad range of design activities with a sufficiently large number of practitioners and educators contributing to an expanding body of professional literature. A central assumption in much of this literature is that there is a fundamental relationship between the artistic and the design processes (Alexander, 1964; Moore, 1970; Jones, 1980; Lawson, 1990). As Lawson (1990) observes "The distinction between art and design is, like all such man made conceptual boundaries rather hazy and easily blurred" (P. 65). In accepting this assumption this researcher takes the position that understanding the art and design processes from the point of view of the professional design community offers another perspective which can enrich our understanding of the artistry in professional practice.

Schön's "reflection-in-action"

Schön (1983,1987) describes the sequence of reflection-in-action as our response to an unexpected outcome, pleasant or unpleasant, that does not fit our previous assumptions or "knowing-in-action". These assumptions are the tacit, implicit and intuitive understandings that we use unquestioningly on a daily basis. When contradictions in our expectations occur we are surprised and surprise leads to reflection within an "action present", or within an event before its conclusion, in a conscious though not necessarily verbal way. As Schön (1987) describes; "we consider the unexpected event and the knowing-in-action that led up to it, asking ourselves, as it were, what is this? and at the same time how have I been thinking about it?" (P. 28). Reflection-in-action has a critical function, questioning the assumptions that structured the knowing-in-action, leading to restructuring the strategies of action, and the understanding of our ways of problem framing. Finally then reflection gives rise to on-the-spot experiments where we think up and try out new actions intended to solve newly recognized problems.

Schön (1983) asserts that artistry in professional practice is present in two distinct ways. Artistry is evident in the "selective management of large amounts of information, the ability to spin out long lines of invention and inference and the capacity to hold several ways of looking at things at once without disrupting the flow of inquiry", (P. 130). The art of the practitioner is also reflection-in-action which is the practitioners re-framing of the problem and performance of experiments to discover consequences and implications which leads to new problems to be solved and opportunities to be explored. For Schön "artistry has two meanings. It may designate intuitive knowing, like the intuitive judgements of a skilled craftsman or the intuitive theories-in-action of an expert block balancer. It may also designate reflection-in-action on intuitive knowing." (P. 276)

Schön's first meaning for artistry seems much like the artist's feel for artistic or virtuoso performance. The virtuoso is one who has special knowledge or skills and who excels in technique or execution, and Schön's description of artistry as the "selective management of large amounts of information", seems like a description of the skills and techniques for execution. Schön's second and more global assertion that artistry "may also designate reflection-in-action on intuitive knowing," (op. cite.) centers on the practitioners ability to use his or her repertoire of examples, images, actions and understandings gained in previous experience as precedents or metaphors in new situations they perceive to be unique. Schön insists that this is not the application of general principles derived from previous situations and imposed or applied to new situations. Rather it is the practitioners ability to perceive the new elements in the unique situation as like existing elements in his or her repertoire, thus making sense of their uniqueness instead of reducing them to examples of standard categories. Schön believes that only after the reflective process of "seeing-as" and acting-as" can the practitioner elaborate on their first unarticulated perception of similarity or difference between the new situation and the previous one. It is this second definition of artistry as reflection-in-action which bears careful scrutiny in light of the literature of the professional design community for while the concept of a virtuoso performance may apply in the performing arts there is little in the literature from the design professions to suggest that this is a meaningful concept. On the other hand there are a number of similarities between the generic design process of reflection-in-action as outlined by Schön and the processes articulated by design professionals.

The Literature of the Design Professions

The body of literature from the design professions can be sorted into three general categories; design theory, design history and design processes. These three categories are generally treated as discrete by design theoreticians and historians with significant research and literature on design processes beginning in the late 1950s (Jones, 1980; Lawson, 1990; Moore, 1970). The motivation for much of this research according to Jones (1970) was widespread dissatisfaction with the results of traditional design methods applied to design problems which have grown too big, too complex and too important to society. The problem for Jones (1980) is "to devise languages of design in which the complexity and speed of the designers artistic modes of thought can be combined with scientific doubt and rational explanation" (P. 4). Establishing this as the goal of design, Jones explores both traditional and new design methods from the point of view of creativity, rationality and control. For Jones (1970, 1980) theories about design processes are either "Black box" or "Glass box" theories. Black box theorists believe that the most valuable part of the design process is the creative process that goes on out of reach of conscious control. Black box theorists like Osborn (1957) or Gordon (1961) assume that the development of creative problem solving approaches are essential to a more effective design process. Furthermore creative processes are not fully explicable or able to be assimilated by the model of discursive reasoning (Kaplan, 1986).

Glass box theories of the design process assume that design methods are rational and logical and therefore can be explained. This picture of the designer and design process is much like the human computer and a computer program. The designer operates only on the information fed to him (or her) following a planned sequence of analytical, synthetic and evaluative steps and cycles.

Designers and design researchers exploring both black box and glass box theories of designing base many of their approaches and much of their understanding of design processes on models of human thinking derived from the literature of psychology. Concepts such as problem solving and information processing, developmental and classic learning theories, Gestalt frameworks, group dynamics and self actualization leading to creativity, have all been employed in researching and or explaining design processes.

Descriptions of the design process include; a continuous cycle of making special forms as the designer's insight dictates which relates to the pertinent data, re-evaluating the problem and solution, first emphasizing one criteria then another while reformulating the problem to correspond (Krauss and Myer, 1970). Intuitive design is seen as a problem solving task within the framework of an information processing model of cognition, which in terms of problem identification sees effective designers as relying on past experience with problem identification (Eastman, 1970). The insight experience for designers is seen as a result of pattern recognition or process recognition which characterizes this kind of re-organization of design problems as reproductive thought. Productive thought is seen as only possible through incremental inferential reasoning, (Rusch, 1970).

Design is alternately seen as "logical" by Archer (1970), while any attempts at systematically outlining the design process is "logically impossible", (Krauss and Myer 1970). Clearly the range of views and descriptions of the design process is sufficiently broad and varied as Lawson (1990) points out, as to have become one of those terms with such a wide range of reference its difficult to know what it means.

For Jones (1980) designers specify ways in which foreseen things can be made to exist, treating "as real that which exists only in an imagined future" (P. 10) and it is this quality of design which is its most artistic. Designers in this sense are like artists, responding to an intuitive image of what is yet to be, with little or no empirical evidence to support their decisions. Designers are unlike artists in that they do this in the service of others (Jones, 1980, Lawson, 1990, Alexander, 1964) which is to say they apply an essentially artistic process to a non-artistic purpose. But what is this process and how is it described?

The Traditional Design Method

Traditional design methods for both Jones (1980) and Lawson (1990) emerge out of the Beaux Arts School tradition which emphasizes product rather than process. These traditions are rooted in the crafts based technology of pre-industrial times when craftsmen constructed objects using undrawn patterns handed down and refined from generation to generation. Craftsmen do not necessarily need to know the principles which may govern the design of an object rather they must understand the limits of what is imposed by usage, materials and skill. The modification of objects through craft usually occur one element at a time through countless trial and error.

During the renaissance scale drawings emerged as the preeminent method for producing objects too big for a single craftsman to make on his own. Modification of design in scale drawings allow designers to predict the repercussions of partial changes on the whole design. The traditional method of design-by-drawing is to draw and redraw successive alterations, often on a series of tracings from the original layout. The designer begins by visualizing a single design and comparing one modification with another using the geometrical consistency of the parts as one criteria. Rusch (1970) using a Gestalt orientation suggests that there are three other criteria; continuity, clarity and relevance. These criteria are manifest through the graphic process of drawing in which design is seen as a symbolic and artistic problem solving process. Rusch observes that strengthening drawn forms by accentuating or suppressing certain features of the form, often moves towards an approximate of a well known structure or a well known process. Previous experience on the part of the designer seems to allow for sudden jumps in the process which then appear like intuition but in fact are the recognition of a previously encountered class of patterns or processes which allow the designer to "jump" to that class of patterns or processes. Problem reorganization, according to Rusch (1970) is dependent on these processes and is to be considered reproductive in nature. A productive solution on the other hand occurs with the conceptual restructuring or re-organization of previously isolated experiences and is truly creative in nature.

The process of design-by-drawing can be seen according to Jones (1980) as an accelerated version of craft evolution. There is of course the added advantage of being able to change several parts of the design simultaneously but exploring the results of these changes or assessing the effectiveness of the designed object is more difficult and must be delayed until the object is actually produced. Learning about what will or will not work for the designer in this situation can only occur by apprenticing with another more experienced designer. It is important to note that design-by-drawings continue to be made by one person at a time and that the whole design is envisioned in a single mind before it can be subdivided which for Jones is one of the critical flaws of traditional design methods.

The Generalized Design Process

The general design process for Jones (1980) is a three step reiterative cycle of analysis, synthesis and evolution. Analysis or the process of breaking the problem or destructuring of the problem, extends the boundary of the design situation, creating an unstable and tentative problem. This facilitates the discarding of preconceived ideas and limits the premature imposition of previous patterns as problem solutions.

The synthesis stage is the transformative stage where the objectives and problem boundaries are creatively re-fixed. Critical variables are identified and opportunities taken. The final stage or evaluative state is one of convergence where reducing the remaining uncertainty, eliminating alternatives and testing the proposed solution takes place. The problem is if testing reveals serious flaws in the subgoals of the problem it may require major compromises in the transformative or synthesis stage. In contrast Lawson (1990) concludes that "analysis or understanding the problem is much more integrated with synthesis or generating a solution" (P. 32). Darke (1978) also found this tendency to structure design problems by exploring solutions. Designers in this process tend to latch on to simple ideas and narrow down the range of solutions by rapidly constructing and analyzing an initial scheme. Darke's process reads; generator, or early decision about critical aspects of the problem; conjecture, or crude design on this bases and analysis, or examination to see what else can be discovered about the problem. The use of a generator idea, or model that directs the decision making process is problematic if the designer attempts an overly mechanistic imposition of an idea based on previous experience (Lawson, 1990).

Observations

Using the literature on design processes from the design professions a number of similarities and differences emerge between the generic design process that Schön (1983, 1987) describes and the process described by various design professionals (Jones, 1980; Lawson, 1990; Darke, 1978; Rusch, 1970). The reiterative cycle of analysis, synthesis and evaluation (Jones, 1980, Lawson, 1990) or generator, conjecture and analysis (Darke, 1978) do structure design problems by exploring solutions often based on the designers previous experience. For Rusch, (1970) this experience is pattern or process oriented and allows the designer to make what appear to be intuitive leaps in re-organizing the design problem. Rusch's careful distinction between reproductive thought and creative thought is a distinction Schön never deals with. Lawson, (1990) warns of the danger of overmechanistic thought or the imposition of previous design solutions on new design problems, while Laxton (1969) sees the designers previous experience as a reservoir from which to draw ideas.

The emphasis on artistry for much of the design professions, falls on the creative aspect of design and the role of the designer as artist. This is not the concept of artistry as virtuoso performance as advanced by Schön rather it is the role of designer as artist who "treats as real that which exists only in an imagined future" (Jones, 1980, P. 10). This concept of art and artistry as transformative is present in Jones' concept of the designer as artist as well as Lawson's (1990) and Alexander's (1964) but is not a key concept for Schön (1983, 1987). According to Jones and Lawson one of the essential qualities of the artist is to act on his or her vision of the future with little empirical evidence to support decisions until after the project is complete. For Schön this act of faith takes place in learning the design process and both Schön and lawson agree that design cannot be taught. Design can be learned, however the difficulty is how do we learn "to do what one does not understand how to do and can learn only by educating himself and can educate himself only by beginning to do what he does not yet understand" (Schön, 1987, P. 93). For Schön it is the suspension of disbelief, or faith, that is essential to learning to design and creating art, yet it is the application of beliefs , grounded in previous experience that forms Schön's central concept of reflective practice. The essential process of learning design requires "action without understanding" while the essential process of design in professional practice is "understanding through action." For Schön the critical element in common in both processes is reflection or our thinking about something which contradicts our anticipations and our acting in new ways so as to make possible new results. Reflection in this sense may be seen as a transformative much as art is also a transformative process defamiliarizing "experience into something different enough to awaken our hearing and seeing" (Green, 1988, P. 129). Art transfigures familiar experience by accentuating or suppressing certain features or by reorganizing these features to be like or analogous to other features previously not connected. This process described by Rusch (1970) is the artistic center of the design process which promotes the sudden recognition or realization, in Schön's (1983) terms, "that A is like B" or a generative metaphor. This suggests that artistry in professional practice might also be seen as a transformative process requiring an attitude of faith or willingness to explore incrementally and re-organize totally, based on our recognition of previously experienced situational patterns and our recognition of previously experienced processes. This also suggests that artistry in professional practice may also require a vision of the future and an artistic approach "near to religious faith" when "predicting the future" while "operating in the present" (Jones, 1980, P. 11).

References will be provided by the author upon request.

Title: PROFESSIONAL LEARNING IN AN ORGANIZATIONAL CONTEXT:
A NARRATIVE ANALYSIS

Author: Christine Kelly

Abstract: Research was conducted at a chemical company, subsidiary of a large petroleum company, to improve the quality of its chemistry through peer learning. The data from semi-structured interviews with 35 professionals were analyzed as narrative structures revealing the schism between the learning paradigm of the engineers and the scientists (chemists).

In their talk about their work, as these 35 chemists and engineers discussed learning about their jobs, their organization and themselves, it became apparent that narratives were emerging. These are narratives in the sense that there is a "sequential unfolding of the material," and in the sense that Fisher stresses, "That people's symbolic actions take the form of stories and that they assess them by the principles of coherence and fidelity..." (Fisher, p. 19) Thus, these interviews became viewed as narratives about learning within a particular setting.

For this paper, we examine the archetype of the hero engineer story in comparison with the chemist's story using Propp's classic structural analysis of the folk-tale. Since the chemical company is owned by a petroleum company, the traditions are derived from the engineering-based petrochemical processes which informs the organization's pervasive myths. Thus, the comparison reveals much about organizational influences on the learning needs of the chemists.

METHODOLOGY

We are not trying to discover how the interviews fit into a narrative structure, although they do approximate that structure, nor are we concerned necessarily with fidelity; we are looking at how the interviews reflect the culture and tradition of a company--of its business practice--and the beliefs of their authors. We are looking at what it means within this climate for an individual to learn.

How does the narrative shed light? It transforms the organization into a storybook so that we can examine all the stories, their plots and characters from the same perspective. By using the structural analysis of Vladimir Propp's *Morphology of the Folktale* (Propp, 1928) we can organize all the details of each individual story within this framework. Propp identified 31 functions; but for our purposes, we are using the nine that more represent the scope of the tale from Misia Landau's book, Narratives of Human Evolution. "I suggest that all these ... narratives approximate the structure of hero tale, along the lines proposed by Vladimir Propp in his classic Morphology of the Folktale (1928). They feature a humble hero who departs on a journey, receives essential equipment from a helper or donor figure, goes through tests and transformations, and finally arrives at a higher state. But it is part of my argument that, as in Propp's tales, this narrative schema can accommodate widely varying sequences of events, heroes and donors corresponding to the underlying evolutionary beliefs of their authors" (Landau, p.x). Using the schema in examining the informal learning of professionals in one organization serves much the same purpose. These stories about learning which approximate the structure of the hero tale are evolved from the same organizational beliefs, yet shaped according to their authors' beliefs and values.

The narrative schema reveals how different details serve similar functions in the narrative yet can convey as many different meanings as there are individuals telling the story. The story analysis allows us to see what can support the individual and the organization in obtaining resources for the heros in the furtherance of their organizational stories. However, whether the learning is the best one for the job, or the individual, or, the organization, or whether it is dysfunctional can only be determined when compared with others, and then related to the needs of the company over time.

If we look at the nine functions of the dramatis personae--the hero, the tests, the departure, the donor, etc.--we know following Propp's findings of the structure that the functions of the folk-tale do not vary nor do they change sequence. The functions are as follows: **1. the initial situation** which reveals the setting; **2. the hero is introduced; 3. the change, or, the lack** is made know--the discovery of some need or missing person or thing; **4.) the departure** follows: the hero leaves home, usually on a quest or is driven out. (In our story a mentor appears, the scientist is permitted to work with key people, is moved to various locations, sent to learn plant processes, given projects to manage, changed from one type of science to another--it is a disruption of the preceding situation.) Thereafter follows **5. the test**. The hero must show ability to complete the first test. The next element is critical: **6. the appearance of the "donor"** where the "storiness" of the narration comes in. The "donor" in Propp's Morphology of the Folktale is introduced in the following manner, "The hero is tested, interrogated, attacked, etc., which prepares the way for receiving either a magical agent or helper....the first function of the donor" (Propp, p. 39). In explanation for the types of donors, Propp recognizes two types, friendly and unfriendly, or deceived, donors. (Propp, p. 48). Through interrogation with the hero or through force, the donor bestows gifts, or "magical agents" on the hero. One might characterize the learning climate in this organization based on the interviewees' discussions of the "donor." The donor can also be an historical force, or in the case of business, the environment which produces a strategy which affects how the hero works. This preliminary part of the tale is considered by Propp to be preparatory for the critical piece: **7. the hero transformed, 8. the hero tested again and 9. the triumph**. In these last three functions, the hero is transformed, performs another test which requires often two or three steps before it can be completed, and then is triumphant (integration with the family through marriage, or, reaches a higher state).

ANALYSIS

The engineer's story might be seen as the archetype for this organization. For comparison, we have included the composite of the chemist's story, and review these within the nine function structure of the folk-tale.

1. The Initial Situation

The engineer arrives with training in engineering and its values. The chemist arrives with training in chemistry and its values.

2. The Hero is Introduced

The engineer values "process, know-how, getting the job done, and moving on." The chemist values "inventiveness, innovation, creativity."

3. The Change--the Lack

The engineering culture values low-cost improved processes, as opposed to the cultural value of chemists of new and novel products.

4. The Departure

Once into the work for a few months, or a year, the hero, both chemist and engineer, must learn about the organization. "We got an operation that makes money because of engineering strengths--and in almost all the divisions that I come in contact with--those are the main factors you're concerned with is making money, and the way we do it is by doing things better, running our processes better...so it [engineering] tends to be a little more of a commodity.

5. The Test

The hero's first test comes now: How do you do your work and meet the organization's criteria for recognition. For the engineer, the steps are clearly delineated and visible; the organization finds you at the plant, working on teams, contacting the customer, managing processes. For the chemist, these activities are more difficult to see. The chemist is more likely working alone on science that may not yet be visible, in fact, may not be recognized for the next 2-3 years as viable. The test for the chemist is to relate the work to the organization's needs and to manage the timing of that in the face of organizational constraints.

When successful, the test evolves like this, in the view of one senior scientist.

For the chemist:
"The guy's been here about a year. He's undertaken two, more or less basic programs. One could have a payout within a year, and one that's very fundamental and which we don't know when the payout's going to be. And so I'm by having those two time-frames on which he's working, he's able to satisfy certainly some individual objectives which should be very basic ones. And also learning a lot more about some new chemistry to work by. But he's basically a Ph.D. chemist and is doing extremely well. Is actually acting as a stimulus to what I have him doing. And he's working hard, and he's having fun."

For the engineer:
"...now, if a person who comes in as an engineer and works on supporting our plants and is more closely tuned to the business there's kind of an assimilation that is more formal in a sense then--he's thrown into real work very quickly. He may have the responsibility of maybe product development. They got some coming along. His learning about the system--learning how it develops new processes--that's a little more formalized. I was just trying to emphasize these are two different kinds of routes. Because they're really different responsibilities."

6. The Donor Appears

This element is crucial, as described earlier, particularly according to the beliefs of the teller, and in terms of the learning that must now occur. In the interview stories, if the belief system between hero and organization is congruent, then the donor tends to be a positive force. If not, then the donor will probably be seen as a negative one. The superior is more often understood as a "donor" for his staff, and the concept of donor becomes not only a gift, e.g., the senior scientist's guidance, but also the policies and time-frames of the organization itself. Since sponsorship is critical, the business groups might also be considered donors. Peers are also seen as donors, through their observation and experience about the organization as well as the science.

7. The Hero Transformed

For the successful, there must be an acceptance and understanding of work processes in relation to the organization's needs. This juncture in the story extends into the mid-career of the engineer and the scientist. In the company, the scientist is permitted to continue only to a certain promotion level unless moved into the administrative track. Thus, here is a parting for the heros: the engineer reaches visible salary and promotion opportunities. The task for the chemist is to find, through mentoring or supervisory, and a continuation of previous research the satisfaction to remain productive.

8. The Hero Tested Again

The second test for the engineer is often success through others. Administrative and project coordination is primary; failure is certainly visible as is success. For the scientists, very often you "don't know whether you are on the right track. Sometimes there's a judgmental kind of--it's a gut reaction, like, 'this is important.' Second, you know, you just from experience that the more you understand, say a certain process that something of value will come out of that." It is a test combining expertise and experience of organization, science and self-awareness.

9. The triumph.

The successful engineer will most likely move into a management track with promotion above the scientist track, with possibility for more responsibility and more salary.

For the chemist, the manager's obligation is to permit the chemist to continue to do the work that excites and allows the chemist to create: "So I've given him some additional resources in order to as a partial reward, and also to make him more productive."

CONCLUSIONS: WHAT LEARNING MEANS IN THIS ORGANIZATION

The methodology invites discussion of the individual's learning over the time of their work at the company. The folk-tale structure itself offers intriguing glimpses into the learning processes--the multiple influences of the work environment, the education and training of the individual as well as the linkage between language and learning. It offers the researcher a measure of comparison that enriches and distills the data.

In this comparison between two archetypical stories, an engineer and a chemist's career stories, we can discover where the organizational influences exist, who and what is omitted from the story, and what conformance is required for success. The prerequisite learning skills for the professional's success are obtained from the analysis. This analysis further suggests that there is a cycle to the learning needs of its professionals within the company that relates to the company's career paths for its technical personnel and to the growth of their technical skill development. These are examined in view of the literature on the learning of professionals. Some conclusions about the organizational as a learning climate and related organizational strategy may also be drawn.

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Learning in Everyday Practice: Being Attuned to Experience

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Abstract

Research on adult learning and professionals' ways of knowing frequently arises from educational concerns. The paper critically examines how our understanding of learning is shaped by these concerns. An alternative understanding of knowledge and learning, which arises from a study of everyday experience in nursing practice, is advanced.

Introduction

Discussions are currently underway in many professions about the nature of professional knowledge and its development. These discussions often centre on the concepts of practice, experience, knowledge and learning. Notions such as theory and practice, learning and experience, action and reflection are frequently distinguished as discrete entities and then various suggestions are made about how these entities may be brought together. In this paper, an alternative understanding is offered, one which attempts to reflect the subtlety and complexity of professionals' ongoing practising, along with the knowing, experience and learning that accompanies it.

Predominant among the sources of our formal knowledge about how professionals learn and develop are several experiential learning theories that have been developed from studies of deliberate learning endeavours. Learning which is independent of efforts to educate has received scant attention, even within the context of adult learning (Thomas 1986). This so-called, 'natural learning' occurs in the midst of ongoing, everyday activities and is something of which we may not even be aware. It is common for us, working day-by-day, to experience a deepening of knowledge and an increase in our range of skills and abilities to manage an ever widening variety of situations. Indeed, we may extend our knowledge and skill without any direct attention to the learning that we do. We are becoming 'experienced' in what we do. We take it for granted.

The discussion is based on an interpretative study of this sort of taken-for-granted everyday experience (MacLeod 1990). The study's aim was to explore the nature of everyday experience in nursing practice with a view to gaining an understanding of how that everyday experience contributes to the development of nursing expertise. Participants were ten surgical ward sisters (head nurses) in two Scottish hospitals who were considered by their nursing managers to be 'excellent, experienced' surgical nurses. Through a hermeneutic analysis of interview transcripts and field notes gathered from periods of participant observation, an interpretation is offered of the Nurses' everyday experience and practices, particularly as they pertain to the Nurses' ways of knowing and learning. From the interpretation, some proposals are advanced about the nature of experiencing and developing professional practice.

Experience and Learning

In the literature on learning from experience, learning receives the bulk of attention and experience is conceived, for the most part, as the ground or source for learning. 'Experience alone [is] not enough, to count as experiential learning: the 'experiencer' had to consciously realize the value of that experience' (Henry 1989, 28). This view, of the need to bring experience to conscious awareness in order for learning to occur, is a recurring one. It is based on an underlying assumption that experience and learning are separate entities. This assumption, I would suggest, stems from the research base of the theories and merits reconsideration in light of an examination of everyday experience in professional practice.

A number of experiential learning models are singled out for attention (Kolb 1984, Jarvis 1987, Boud, Keogh and Walker 1985, Mezirow 1981, 1989 and Argyris and Schön 1974). Common to all is the centrality of concrete experience as the source and testing ground for learning. All are cyclical in nature, with some form of feedback loop in which learning from one experience influences the next. All have stemmed from research on deliberate learning. As Tough (1979) describes, deliberate learning experiences have learning in mind. They are usually part of educational programs, either inside the classroom or in the workplace, but also may be part of self-directed learning projects. In any case, the goal of the situation is learning and 'learners' are aware that they are learning.

Overall, the picture of experience and learning painted by the experiential learning models is somewhat stark and compartmentalized. Experience, learning, reflection and action are described as being distinct and are connected in specific, sequential and circular ways. Although experience forms the ground for all of the models, with the exception of Jarvis' model and Boud and Walker's recent work (1990), experience itself remains unexamined. Notable in all of the models is the independence of the individual actor and the distinction of experience as a purely subjective or purely objective phenomenon.

Phenomenological research on the experience of learners in educational programs (e.g. Griffin 1987, Chené 1985, Taylor 1987, Diekelmann 1988, 1989) present a more complex picture of experience than do the experiential learning models; the boundaries between experience and learning are much less clear-cut. However, with the exception of Diekelmann's study, learning continues to be the primary focus of the research, with experience remaining in the background as a source and a backdrop.

A somewhat more dynamic view of experience is afforded by the very few studies which focus on incidental or natural learning (Burgoyne and Stuart 1976, Gray-Snelgrove 1982, Burgoyne and Hodgson 1983, Davies and Easterby-Smith 1984, Rossing and Russell 1987 and Hasselkus and Ray 1988). These studies highlight the dynamic interplay of the ongoing situation and an individual's experience. It is notable that Burgoyne and Stuart, and Rossing and Russell comment on some lack of 'fit' between their findings on incidental learning and the experiential learning models. I would suggest that this discrepancy is more significant than the authors might otherwise suggest. It highlights the complexity of experience which is not addressed in experiential learning models.

It is somewhat surprising, given the claim that experiential learning involves the whole person, that the body is almost completely overlooked by the experiential learning theorists and only minimally addressed by researchers studying learning experience. However, neither the focus of these studies nor their reliance on narrative accounts of experiences serve to highlight taken-for-granted bodily experience.

In sum, our understanding of experiential learning has arisen largely from research which begins and ends in the classroom. For the most part, subjects bring memorable experiences to serve as a ground for reflection and a source of learning. It is not surprising that experience itself has not been the subject of much study. Nor is it surprising that experience is usually seen to be static and non problematic. Educational interventions would not be expected to occur within experience itself but would take place during the process of reflection.

Experiencing Everyday Practice

The focus in this study of excellent, experienced surgical head nurses, was directly on the nature of experiencing everyday practice. In the field notes and interviews, the Nurses' ongoing moment-by-moment experiencing, as well as retrospective experiences were recorded. When these field notes and interviews were examined, experience was not found to be as static nor as simple as it is usually made out to be. It was revealed to be fluid and complex, closely linked to moment-by-moment nursing practice and already imbued with meaning. The Nurses did not appear to confer meaning on some aspects of their experience and not on others. Time was found to play an important part in ongoing experience. Rather than a static, spatial entity, moment-by-moment experience was found to be always in a state of flux. It became evident that previous experience is linked to experiencing in the present, which is always geared towards possibilities in the future.

The complexity of experience is particularly important when considering how learning accompanies experience. For the Nurses, becoming experienced surgical nurses seems to be a complex process, linked to their moment-by-moment practising. They seem to be learning all the time. On examination, the Nurses' ongoing practices were found to be purposeful, complex, multi-faceted and patient-centred. Underlying these practices, a process of noticing, understanding and acting could be discerned.

Being Attuned to Experience

This inextricably intertwined, non-linear, non-circular process of noticing, understanding and acting, stems from a stance of involvement and care. It is both the process of practising nursing and the process of experiencing practice. Through this process, the Nurses are attuned to experience: their own, the experience of others around them, but most importantly, to the patients' experience. Patients emerged as the primary source of learning about clinical care. From the patients, the nurses learn about illness, the process of recovery, the meaning of being ill and the effects of their own practices. Constantly noticing, the Nurses continually test and revise their understanding of the patient, the nursing care and the situation.

Being attuned is a reflexive, comparative and connective process through which the Nurses continually expand their capacity to notice, understand and act. The Nurses develop expertise in practice by being attuned to experience: it is the way in which they become 'experienced'. Its qualitative nature contributes to the Nurses' expertise.

Within the Nurses' moment-by-moment practising, I was unable to discern theory as being separate from practice. Nor were theories-in-use discernable. Rather the Nurses' practices were already imbued with theoretical and practical knowing. The findings run counter to conventional views in which theory is seen to direct or be applied in practice. While Schön (1983, 1987) and Freidson (1986) both acknowledge the effect of the context of practice on the practitioner's knowledge, they suggest that theoretical knowledge or theories are transformed in practice. However, that transformation was not evident. I would suggest that the Nurses are practising through knowing-in-practice. Already a part of ongoing pragmatic activity and informed by theoretical knowing, knowing-in-practice is at the same time more subtle and encompassing than the separate notions of theory and practice. Theoretical knowledge and practical knowing are already integrated in ongoing practices.

Common to all of these excellent, experienced Nurses is a confidence about their abilities to notice and a sureness of action. Confidence does not just arise from developing knowing-in-practice, it also enables its development. Because of their confidence, the Nurses are able to act in situations, which in turn present opportunities for developing new ways of noticing, understanding and acting. Their confidence is inspiring to others and sets up opportunities for new experiences. Although they are confident in their understanding of a wide range of situations, the Nurses are not complacent in their understanding. They constantly keep their practices and their understanding in question. They confirm and extend their understanding, their actions and how they notice through a process which is much like a dialogue with their own practice. The dialogue is part of being attuned to their own and to others' experience. The dialogue is not only verbal. The Nurses are attuned to the smells of wounds, to the sounds of breathing, to the feel of skin turgour and to the sounds of the flow of work on a ward. Over time, they develop finely tuned powers of discrimination which might never be expressed verbally.

Being attuned to experience is an ongoing thoughtful, complex, multifaceted and reflective process through which the Nurse herself grows and changes as her practice develops: she becomes 'experienced'. Learning in the midst of everyday practice appears to be just as fluid and elusive as ongoing experience. It occurs in the midst of practising, in the midst of experiencing. Indeed, it could be said that learning accompanies experiencing in everyday practice and as well, is an outgrowth of experience.

These features and others of the Nurses' experience point towards the relational and contextual nature of being attuned to experience. They raise questions about the place of reflection in learning and the relevance of the distinctions of theory and practice, action and reflection, experience and learning. The ongoing, 'picking-up', continual comparison and dialogue with practice which can occur in the midst of ongoing experience in practice is omitted from our current conceptions of learning. Being attuned to experience points towards an ongoing reflexiveness in everyday experiencing.

Thus, it is important not only to look at the superstructure, the models which are created to explain learning in experience, but also to look at the foundation. What is missed in the foundation is likely to be absent in the superstructure (Clark and Wilson 1991). As the models of learning have foundations of educational concerns in deliberate learning situations, so too are their views of learning tied. If other professionals are anything like the Nurses in this study, the vast amount of learning which occurs in the midst of their ongoing work days is more complex, fluid and reflexive than most current conceptions of learning would have us believe. Approaches to continuing professional education would benefit from recognizing the complexity and situated, contextual nature of professionals ways of knowing and learning.

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MECHANISMS FOR HELPING 'BECOMING' PRACTITIONERS DEVELOP PROFESSIONALS' WAYS OF KNOWING

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Abstract

Explicit opportunities for reflection in pre-service professional education are needed so that the many varied and disjointed experiences of learners may become meaningfully integrated into coherent and increasingly expert learning (Boud, Keogh & Walker, 1985). Presented below is a framework which describes how the journal and the resulting professional conversations which the journal engenders can facilitate this process. Following this are case studies which describe the use of journals in two pre-service instructional settings, nursing and dietetics.

Conceptual frame (Lynn McAlpine)

The intention of pre-service professional programs is to produce certified professionals; in other words, becoming professionals are expected to have moved from a novice to a somewhat expert stance by the end of their training.

The increasing knowledge base in these fields has made this a difficult task: greater degrees of subject matter need to be absorbed during training periods that have often not been extended. This leads to an emphasis on knowledge acquisition and discrete skills-based competence; this focus is exacerbated as much of pre-service training takes place in classrooms with limited and sometimes drastically reduced opportunities for learning how to interact with the complex problems and decision-making of the workplace. Thus, one finds concern expressed in the literature on finding ways to bridge the gap between school and real world practice (e.g. Talarczyk & Milbrandt, 1988).

What is required is a means of enabling becoming practitioners to overcome the limitations of the training experience: compressed time in which to master knowledge and skills; limited occasion to operate in the real and complex reality of the professional world; resulting loss of opportunity to create an integrated coherent professional way of knowing.

Elbaz (1981) suggests that the development of a personal practice is a deliberative process of inquiry in which one links knowledge of subject matter, practical experience of the profession and social knowledge gleaned from one's interactions with others. Schon's work (1983, 1987) suggests that the developing professional needs to develop an understanding of the role of reflection in coming to know and improve one's practice as a professional. Thus, one instructional goal of pre-service becomes providing explicit opportunities for intentional reflection so that the varied and oft disjointed experiences of learners may become meaningfully integrated into coherent and increasingly expert learning (Boud, Keogh & Walker, 1985). The principal mechanism being suggested for this purpose is the use of a journal to record the experiences of clinical practice, and the development of professional conversations between instructor and learner as the instructor reads and responds to the journal. The journal is seen as an opportunity for the learner to explicitly link classroom and practicum learning with personal/ social knowledge and *reflect on the resulting integration.* (For more detail, see McAlpine, 1991.)

In developing a better understanding of the ways in which becoming practitioners use journals to reflect on practice, we have used the work of Rainer (1980) and Boud, Keogh and Walker (1985). Rainer suggests that we can write about our experiences in the following ways: description, catharsis and reflection. Boud, Keogh and Walker suggest that the reflective process of writing includes a description of events, a reliving of our feelings and emotions associated with the events, and critical reflection on both to arrive at an integrated synthesis. Thus, these three concepts can provide the basis for the analyses of learner entries in journals.

In developing a better understanding of the role of the instructor in creating a professional conversation with the learner through reading and responding to the journal, we have conceptualized the relationship between instructor and learner as that between a mentor and mentee. Daloz (1987) has suggested that the mentor's interactions with the mentee can be characterized in three ways: vision, challenge and support. Vision represents the mentor's ability to see where the learner is going, and as much as possible make this vision explicit to the learner; it is exemplified in such things as modelling, suggesting new language to describe new ways of thinking. Challenge represents the ability to create cognitive dissonance in the learner, to push the learner to greater knowledge and awareness; examples would be engaging in discussion on outcomes of tasks and their generalizability to other settings; pushing the learner to contextual thinking, to seeing the 'real' as only a portion of the possible; setting high standards. Support is ongoing positive psychosocial reinforcement that confirms the learner's worth. Examples would be actively listening, providing structure, expressing positive expectations. These three categories can be used to analyze the kinds of professional conversations that pre-service clinical instructors have with learners in responding to their journals.

Case studies

Two clinical instructors in nursing and dietetics (Frew and Lucas respectively) were intrigued by the potential benefits of carrying on professional conversations with their pre-service students about their clinical experiences. Each decided to carry out a study to explore the impact of this kind of exchange on both learners and instructors. Each had to deal with different institutional constraints and programming issues, and thus implementation strategies varied somewhat. Nevertheless, they were able to collect data about the types of writing that were produced by learners and instructors, as well as the impact of the experience on both populations.

Dietetics (Maureen Lucas)

The dietetics program at McGill University includes four separate levels of professional practice, or "stage", at approved institutions in and around the Montreal area. Each student is supervised by one of seven clinical coordinators. At three of the large teaching hospitals, the coordinator is on site; at the smaller institutions the coordinator visits once a week to review progress and observe the student "in action". The 39 students participating in the seven weeks of level II "stage" were asked to keep journals and to write at least twice a week. In an orientation session it was explained to both students and coordinators that journals were a means of facilitating the reflection needed to integrate theory with practice, and were another mode of communication between mentor and mentee. The coordinators read and replied to the journals at least once a week, and collected them at the end of the "stage". An evaluation questionnaire was administered to both the students and the coordinators.

The completed questionnaires showed that the students were spending an average of about 30 minutes per week in writing, with individual times ranging from 5 to 90 minutes. An average of 2.5 entries were made per week although, again, the difference between individuals was great - some writing only once, and some writing five times per week. The average length of entry was 16 lines, with a range from 2 to 116. On a scale of 0 to 10 the ease of writing was rated at a mean of 7.8; the level of interest rated at a mean of 7.0; and the usefulness to the student at a mean of 6.1. Some students commented that they found it easier to write down their thoughts than to express them verbally and found that the writing facilitated communication with their coordinator. The cathartic benefit of writing was mentioned by several students. On a similar scale the students found that their coordinators comments were supportive at a mean level of 7.7; and challenging at a mean of 6.1. The extent to which the coordinators provided vision was not assessed by the students as this concept had not been introduced to them or to the coordinators prior to this experience.

The results of the questionnaire administered to the coordinators indicated that those who were not on site with their students found the journals to be more useful than those who were on site and having daily student contact. In addition, it was noted that the on-site coordinators were able to collect the journals and read them when the students were elsewhere. They wrote more responses than the off- site coordinators. On the other hand the visiting coordinators often had to read the journals in the presence of the student. They wrote less in the journals but spent more time verbally discussing the content with the student. Thus the journals became a springboard for an oral conversation between the student and coordinator, and several students and coordinators mentioned the benefit of this in unearthing issues that might not otherwise have come to the surface when there is not daily contact. An additional benefit described was that of precisely identifying the feelings at the time. One problem noticed was that the conversational aspect of the journals was not used by the students; they never responded to the coordinators' written comments. This suggests that the orientation needs to highlight the conversational nature of the activity.

The journals themselves were studied for content, using the categories of Rainer (1980) and Daloz (1987), as mentioned above, to analyze the types of student writing and coordinator response respectively. It was found that in general the student writing was about 45% reflection, 45% description, and 10% catharsis. The reflection tended to focus on the student's inner feelings relating to their practice and surrounding events, and on how they might deal with these feelings. It did not, however, focus on the more practical issues of how they performed and what they would do differently another time. The catharsis centered on how tired, frustrated and stressed out they were at times. The responses of the coordinators were largely supportive (78%), with occasional displays of vision (15%) or challenge (2%). This is in line with the supposition of Daloz (1987) concerning a mentor's responses to the beginning practitioner.

This was a new technique for the program and both students and staff were novices together. However, all of the coordinators expressed an interest in having students keep journals in future "stages", although some commented that this should be on a voluntary basis. The overall feeling is that journaling may be an activity that, with more experience, can benefit both the student and the coordinator in professional practice.

Nursing (Eleanor Frew)

The three year nursing programme at John Abbott College in suburban Montreal prepares professional nurses to practice nursing in hospitals following graduation and licensing. Nursing theory and a variety of other courses are taught in the college setting. Various psychomotor skills are taught and practised in the college nursing laboratory. The practice required to become a professional practitioner is acquired by students spending rotations of seven weeks called "stages" in the hospital setting. Through caring for and interaction with patients, as well as interaction with a clinical instructor and hospital staff, the nursing students gradually absorb the atmosphere of the hospital setting. They also polish their nursing skills. Thus, through the dual method of skill practice in the laboratory and the highly supported clinical practice in the hospital, student nurses learn to be safe professional practitioners. This is an important requirement for health care workers who may confront potential life or death situations.

Second year nursing students on a seven week Obstetrical stage at a large downtown Montreal hospital participated in a post-clinical conference where reflection on practice was discussed. Three aspects were identified: reflection-for-practice, reflection-in-practice, and reflection-on-practice (McAlpine, 1991). Prior to this conference, students stated they had not been aware of the notion of a personal nursing practice.

These students were subsequently required to hand in a weekly journal to the nursing clinical instructor. One journal entry was made per week, following the two day clinical experience. The students used various guided questions to reflect upon their nursing practice. This was an effort to enable them to integrate nursing theory and practice. The instructor read and responded to these journals once a week as a mentor to a mentee (Daloz, 1987).

Sixteen student journals were analyzed. The range in length of entry across students was from a minimum of 11 lines to a maximum of 107 lines. Individual students averaged from 24 lines per week to 58 lines per week. Using Rainer's (1980) categorization for reflection, it was noted that students used description the most frequently. That is, in comparing lines per category, three quarters of the students (12) wrote more in the descriptive mode than the other two modes. The next most frequent category was reflection followed closely by catharsis.

The reflection focused on the clinical experiences of the students in relation to their patients, their patients' families, nursing and other hospital staff, and clinical instructor. As well, some of the issues confronting the students in their private lives were revealed. This served as a means for the student and instructor to discuss how these difficulties were affecting their studies and clinical experience. The catharsis was the release of emotion that accompanied the interactions in the clinical area. A final category called "other", was also used, it represents occasions when the student used the journal to ask a question or to make a request of the instructor.

The responses of the clinical instructor were largely supportive (Daloz, 1987). This was where the instructor affirmed the worth of the student and gave reinforcement to learning. Some responses were technical and a small number were critical or ethical. The interesting result for the instructor was to become aware of the types of possible responses in order to further empower students in the future.

Most students expressed positive thoughts about the usefulness of journals in promoting reflection on practice. Some stated it was helpful to have a listener. The ability to hold professional conversations between instructor and student nurses by means of journals was seen to be very helpful to both in professional practice.

Conclusion

Becoming expert involves not only the acquisition of knowledge and discrete skills, but also the appropriate integration and use of this expertise for decision-making and action in the complex, real world of practice. The discontinuous nature of much professional pre-service training has made this professional way of knowing, at best, tacit and, at worst, inaccessible to the novice. Thus, instructional mechanisms, such as journals and professional conversations, which can highlight the role of reflection in professional learning and make explicit the necessity of coming to know and modify one's personal practice may be seen as potentially powerful ingredients in pre-service training (Schon, 1987).

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SCHOOL MUSIC TEACHERS AS MUSICIANS

Professionals with an alternate relationship to traditional school knowledge

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Music teachers in our schools are challenged because the nature of their "academic" discipline has necessitated an alternative relationship to more traditional school knowledge. But as the drift in the sociology of music knowledge moves away from the "receptive" perspective toward a more "reflexive" one, traditional values in school music are also being successfully challenged. This paper discusses the importance of the social construction of a "musician" identity by music students in relation to traditional curricular expectations in music education.

I believe in music education. It is an unbending personal philosophy that students in our schools can be well served in a large variety of ways by some exciting involvement with things musical. This having been said, I must admit to be presently standing in the midst of an academic quagmire. On the one hand, I see university schools of music preparing "musicians" in their own image, an image which I and many others in education currently hold to be more than somewhat irrelevant to today's teachers. Much of what passes for a musical education in these institutions evolved in an earlier time when what counts as knowledge in music was viewed as substantially different than what must surely be accepted in today's pluralistic society. On the other hand, I see music education under severe attack in the school systems in this country and beyond. This, I believe, can be in no small way accounted for by the fact that music education is not being delivered in a way that is concurrent with the mainstream educational thought, at least as it relates to curricular knowledge.

Historically, school systems offered a "liberal classical" curriculum with studies in Latin and Greek and other humanities. But toward the second half of the last century, and particularly in Great Britain, largely through advocates like T. H. Huxley, H. Spencer, M. Faraday and others, a change in curriculum was proposed with a strong bias toward scientific and technical knowledge. This was vehemently opposed by the majority of teachers and administrators. In fact, in 1900 the Association of Assistant Masters claimed that a number of smaller schools were "confronted with a choice between ruin and a transformation into schools of science and technology". This feeling was also to be found among school inspectors and politicians (Eggleston, 1977).

Mass education remained nonetheless predominantly concerned with basic arithmetic and other related numerical skills and basic literacy. The foundations for the continuing "back to basics" movements of reading, writing and arithmetic were germinated. This curriculum sprung from a notion of required skills for new roles in the industrial society. The knowledge was regarded as utilitarian and basic.

The push for science and technology continued, driven by society's need for war machinery and in the United States, by the single most important event in educational re-evaluation of this century - Sputnik. Nothing has so universally infiltrated the American psyche as the public awareness of second-classedness in the world view after the Russians won the space race. Science and technology and everything associated with it was catapulted to the foreground of educational importance.

Curriculum was viewed as a representation of reality, that is, as knowledge presented to students as the essential nature of subjects or as fundamental understandings in a "received" perspective. Subjects became disciplines and achieved thereby a form of immortality along with their own form of self-justification.

Various attempts to account for the necessity of music in the curriculum were penned by some now rather well known figures. One of the most often quoted and respected was Paul Hirst. Hirst suggested that there were several distinct types of knowledge that human beings ought to include in schooling if the curriculum were to be representative of our broadest gambit of knowledge. Among this list was a view that the arts was a form of knowledge that in its own way, states "something that is distinctly and irreducibly artistic in character". Works of art, he writes (1974:153), "are indeed artistic statements, stating truths that cannot be communicated in any other way". He concludes somewhat later (:161), "I see no reason why we should not speak of art as a form of knowledge". Hirst (:87) concedes however that, "the suggestion that in...the fine arts...we have distinct forms of knowledge has not surprisingly provoked opposition". O'Hear (1981:100), for example, concludes about Hirst's work that, "the arts...are only dubiously forms of knowledge. He suggests that when we really examine the criteria by which Hirst uses to select his forms of knowledge that these forms may be "of experience rather than knowledge, that the emphasis is on the activity rather than on the subject matter to which the activity might be about"(:98).

It has not gone unnoticed by some scholars that in the field of aesthetic education, what is typically referred to in these instances comes from the "received perspective"(Elliott, 1989; Roberts, 1990, 1991c). This stubborn tendency remains even today and is certainly clear in the recent paper by E.D.Hirsch, Jr. (1990:4/5) when he writes, "It is incumbent upon those of us who believe in art education to decide which artists and works of art should be known in common by all students". Later he writes, "the task of art education in deciding upon a definite curriculum is simultaneously to raise everyone to a level of existing mainstream culture and to attempt to advance existing culture beyond its current level".

In music education, this has traditionally been interpreted to mean that those of us in the know, would select the best symphonies and concertos and operas for classes to learn **about**. This cultural hegemony in music education has been rampant and is still the mainstay of the university music departments (Rose,1990). As Young (1971:32) writes, "the power of some to define what is 'valued' knowledge leads to problems of accounting for how 'stratified' knowledge is and by what criteria".

Despite the cries of a large segment of the music education world at every instance of the "back to basics" movement, the very central tenets of the "basics" within this received model of curriculum are the very same facets of import in the traditionalist's camp in music education. What has counted in music education has been without question the reading, writing and arithmetic of music. Value in music has been assigned by the theoretical analysis (arithmetic) of the written score and then played (read) from this same score. Traditional music educational values are only about the educational basics which ironically seem to many to spurn the very claim on music's curricular inclusionary authority.

While earlier sociologists concerned themselves with schooling structures, with the advent of the "new sociology of education" in Britain, most notably through the work of M.F.D. Young, the curriculum for the first time became the target of sociological scrutiny.

What had always been taken-for-granted became the central focus of an immense research agenda to examine curricula critically.

What gradually emerged was the notion of the "reflexive" perspective. In consequence, a limited rather than a universal view of the world prevailed. Early sociologists such as Durkheim excluded mathematics and aspects of science from his formulation. But even these came to be challenged, most notably by Kuhn (1970). New interpretive approaches to the study of knowledge evolved and have since become firmly entrenched in the sociological discipline. These have been variously called 'symbolic interactionism', 'phenomenology' and 'ethnomethodology'.

Following the seminal work by Berger and Luckmann (1966) the social construction of reality became an accepted part of the academic consideration of knowledge. Knowledge was seen as constructed by individuals and collectively by groups and used by these persons according to their own social rules. Lawton (1975:58) suggests that there are five different levels in the process of the reflexive view of knowledge. He concludes that all knowledge is socially constructed and that not only knowledge but rationality itself is merely a convention. The discussion concerning curriculum centred around the issue of "the persistence of elitist orientations in the determination, evaluation and distribution of knowledge" (Eggleston, 1977:68). Experience counts!

One of the main studies of the early seventies in the area of curricular knowledge happened coincidentally to be in music education. Vulliamy (1977) examined the British school music curriculum as a form of elitist knowledge. His main orientation was to examine the rationale for the absence of pop/rock music in the official curriculum. He reports on experimental curriculum projects where students are asked to compose music themselves rather than study about other composers' music that "such an approach to music education involves a radical redefinition of what counts as music" (:23). At this point we can return to Hirst (1974:158). For despite the criticism launched toward his writings, he was very clear about the nature of the arts altogether, an issue his critics tend to ignore. He writes, "Art is not a natural given, it is a social product with its own role and function in the life of man".

I would now like to return to Hirsch (1990), who I believe gives us clues which he has misinterpreted in his own paper. It is obvious that his intent is to show that the goal of arts education should be a hegemonic process of enculteration. This he sees as a "direct utility of art education" (:3). He writes, "no advocate of the arts should feel tainted or somehow impure in stressing the straightforward social utility of education in the arts. Indeed, the subject of utility, both for the individual as well as for society, goes to the heart of what is valuable in the arts"(1990:3). But as he leads us closer to the core of his argument, he writes, "The aesthetic values of sport, like the aesthetics of painting, are *also* instrumental values in the sense that they are satisfying to people and therefore *not* truly ends in themselves. They are ends for people".

Now here seems to me to be the pivotal point at which in today's world, he might have proceeded with a full exposition of how the arts and people are connected. Others have quite successfully constructed a more contemporary vision of what music is. Kingsbury (1984:52) for example concludes simply that "the concrete reality of music is social process. It is social process which gives music meaning, and it is this meaning which makes music what it 'is'. Music is a category of social meaning". Even more direct is this comment by Elliott (1989:12) who writes, "in short, because music is, in essence, something that *people* *make* or *do*, a people's music is something that they *are*, both during and after the making of music and the experiencing of music".

Musical knowledge must be viewed as process and not simply as cultural artefact. Small (1987:51) writes simply that, "it follows that whatever meaning there is in music is to be found in that act [of musicking] rather than in the actual works themselves".

The Empirical Data

Having considered various historical positions and the change in perspective that has occurred in curricular knowledge, it is now time to relate some of the results of empirical investigations into the nature of man's relationship with music. No-one disputes that there are symphonies by Mozart, operas by Wagner and concertos by Brahms. But what may be pursued is the relationship to music that is translated socially into an identity as a "musician". Facts **about** man's accomplishments are available to many in the form of artefacts. The craft of bookbinding is available in the world's museum collections of beautifully bound tomes. That Kurt Browning remains the reigning world figure skating champion is available on videocassette. Despite the fact that this knowledge is generally available and is perhaps worth knowing, none of this knowledge will make the "knower" either a craft bookbinder nor a world-class figure skater. The fact that one might come to appreciate these forms as art forms of skill and beauty do not in any way contribute to an involvement with the discipline itself as a craft bookbinder nor skater. Music ought to be seen in the same light. There is nothing particularly wrong with knowing **about** musical artefacts, Bach or the Beatles. But to **know** music, is to be a **musician**.

Having said that, I entered into an empirical study to determine what music education students in five Canadian universities understood as "being a musician". I tried to determine what meaning this held for these students, for these would become the next generation of music teachers in our schools. More than 100 students were interviewed from which the data presented here were extracted.

Question: **Ah, so musician is performance!** Answer: **Yes!**

Students in music schools appear to want to be a "musician". In fact, the majority of status rewards in music schools are valued as, and reserved for, events that students identify as "musician activities". This student reports his impressions clearly when he says, "the thing I really love most about it [music school] is that I can play my horn". And it can be traced to even more discreet aspects of playing. This student suggest for instance that, "performing is the ultimate, practising gets everybody down. Performing is such a thrill". This supports clearly the idea that music is a socially shared construct. The nature of practice is the return to the artefact to be mastered. When this student was asked about practising he stated unequivocally, "I hate practising!" The relationship of an identity as musician is clearly linked to performing. This student suggests simply, "Because as a musician you should be able to perform". Another student says, "I think performing is important. To me that's what music is eventually all about". Some students differentiate 'performing' from 'playing'. This seems to work as self-as-audience and is not to be confused with 'practising'. When asked what was important when she came to music school this student replied, "singing". And when pressed with "anything else?" she replied simply, "performance". I then asked if that were the same thing to which she replied, "yes".

Music education students seem to view the "player" as somewhat different than the "well-rounded" musician. The music schools provide an abundance of courses in all manner of academic music, most notably in the area of musicology and theory. So when a student comments about these courses, she echoes the general view that, "I think they're important to a certain extent although I think you can still be a good musician although not a totally rounded musician". In fact, more common was the notion that these academic courses **about** music actually interfered with the ability to concentrate on more important performing activities. He says, "but I sometimes felt like spending all that time on an academic subject was taking away from the practice". Academic courses in other than musical areas such as required courses in English or other languages were seen as even more of an intrusion into the time for valued playing.

Not all performing is equal in the music school. Some students suggest that only "solo" performing is valued. Valued, that is, in the efforts to become socially acknowledged as a "musician" (Roberts, 1991a). Other students dispute this notion and claim, for example, that "I'm learning a heck of a lot more by accompanying than I would sitting here playing the Ballades or Etudes...working on my scales up and down and that kind of thing".

In fact, this student says it quite bluntly, "If you don't play well, you're not a real musician". This common thread that binds the social definition of "musician" together is "performance". Of some concern to music education students was the extent to which some musicologists and theorists on faculty, who did not appear to perform (at least any longer) might be questioned as "faux-musicians". Generally, they conceded rather reluctantly to the view that perhaps these professors had a "profound knowledge about music". But for many, one either plays or one does not and this foolishness about book writing may be important to some but it simply does not qualify a person to claim the label "musician". This student says, "but in my opinion, if you...spend your life reading books and researching music you know or different styles of music and everything to me that's not a musician". However, if there is evidence that a professor once performed a lot, students generally concede that they are still musicians because "if he looks at a piece of music he can still understand what he has to do". This is to be pointedly distinguished from "knowing the piece". This "knowing what he has to do" is the process of performing. Of the Julliard School in New York, Judith Kogan (1989:50) writes, "Any other demands [other than performance] - even musical ones - are annoying distractions...Teachers spoon-feed students and apologize for minimal demands...Cheating is common-place". Julliard demands little more than "a passing grade in courses that demand little more than attendance" (:48).

But like Julliard, in the Canadian university music schools in this study, only classical music is officially sanctioned. Only the skills and knowledge of classical music are fostered and while students attempt early in their social careers to broaden that view, they usually come to surrender to the superior value of this kind of music (Roberts, 1991b). Performance is typically turned to be the slave of the established repertoire. Despite students' quest for a broader vision, music schools are invested with faculty who wish the graduate to be formed in their own image. Any performing knowledge relating to other forms of music, pop, rock, folk, and in many places even jazz, are at best ignored and more often than not preached against.

These are the "musicians" which, because of their degree status, become the exclusive pool of applicants for teacher certification programmes. The historical changes in curriculum perspective make it clear that these students have constructed a musician identity which is not concurrent with the multi-faceted reality that is facing them in the classroom.

If we accept Vulliamy's charge that a change in school curricular repertoire to include other forms of musics requires a radical redefinition of what counts as music, then the obvious goal of continuing education in music education must be to allow teachers to escape their chains of cultural reproduction. It is not the performing skills but the context and reification which bind these musicians. Music teachers need the performing knowledge to take advantage of students' cultural capital and to foster their own understanding of the knowledge of performing in the cornucopia of musical genres available to today's youth.

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Implicit Knowing in Medical Diagnosis

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Abstract. There is evidence that physicians rely on implicit ways of understanding their patients' problems as well as on the explicit way of knowing encouraged by conventional approaches to diagnosis. The implications for continuing professional education are to maximise direct experience and avoid inhibiting unselective learning.

The Conventional Approach to Diagnosis

In medicine, "to diagnose" means to make an explicit statement of the precise pathophysiology which is causing a patient's complaint. This involves locating it within a taxonomy such as the International Classification of Disease. The diagnostic process defined in textbooks involves the following:

1. hypothesis generation (i.e. listing all the likely diseases consistent with the patient data);

2. information search (i.e. gathering further data relevant to the disease hypotheses);

3. data interpretation (i.e. distinguishing between normal and abnormal findings, then classifying abnormal findings as confirming (occurring in both disease and patient), non-confirming (occurring in disease but not patient), and non-contributory (occurring in patient but not disease));

4. hypothesis evaluation (i.e. accepting and rejecting specific disease hypotheses, or ranking them in order of probability).

The Problem for Continuing Professional Education

While these procedures (or something similar) may be taught in medical school, many experienced doctors claim that they do not think like this in practice. For instance, a professor of general practice told me: "Diagnosis is a shibboleth. We are supposed to make a diagnosis first and then choose the treatment, but we don't. Look!" He grabbed a felt pen and walked over to a flip-chart. "The central issue when I see a new patient is how to manage the case, which means deciding what can be achieved within the consultation, and whether I can handle it myself, or whether it is necessary to refer."

He drew a decision tree on the flip-chart. "The first question is: Do I need to act now to save life? In the majority of cases the answer is no. The next question is: Do I need a diagnosis to treat? Again, the answer is often no, for a technically perfect diagnosis might not refine the choice of treatment. But even if a diagnosis is necessary, I still have to decide whether to attempt it now, or whether to begin intermediate treatment first. In many cases, beginning treatment is the preferred course, diagnosis coming later."

Obviously, physicians have ways of understanding their patients' problems other than by making diagnoses in the conventional way. To meet their needs fully, continuing medical education must go beyond the textbook approach to diagnosis. This involves coming to terms with the issue of implicit knowing.

Explicit and Implicit Knowing

Explicit knowing manifests itself when we intentionally form a conscious opinion about something - for instance, when a physician deliberates about the origin of a patient's chest pain and writes the conclusions in the medical record. Implicit knowing, on the other hand, manifests itself when the individual becomes aware of something without being able to focus consciously on what precisely is known, or on how he or she knows it. This pre-conceptual awareness is often followed by the conscious formation of a verbalisable idea, but the two ways of knowing are psychologically quite distinct. Unlike explicit knowing, the implicit kind is undirected: understanding occurs at the edge of awareness without having been summoned there.

Underlying explicit and implicit knowing are two distinct cognitive systems, one conscious and the other unconscious. In evolutionary terms, consciousness is a relatively recent development which came long after the development of mental capacities which operate unconsciously. In the conscious system, experiences pass through short-term memory before they are stored in long-term memory. However, the unconscious system operates by recording the frequency and co-occurrence of events in the environment automatically. Such processing does not pass through the conscious system, and the records are not expressible verbally. In humans, the two systems function side by side. The implicit system interacts with explicit one, providing a substrate which influences the mental processes which are available to consciousness (Reber, 1989).

Evidence for Implicit Knowing in Medical Diagnosis

Medical educators often speak of the need for new doctors to "unlearn" the approach to diagnosis taught in medical school. The reason is that the latter encourages an explicit way of knowing, whereas the practising physician comes to rely more and more on implicit ways of knowing as he or she accumulates experience. Consider the following examples:

(1) The British general practitioner F.M. Hull (1985) describes how, by familiarising himself with the records of the patients on his list and all aspects of the locality in which his practice was situated, he "was able to develop that useful warning light, which all of us recognise, that suddenly lights up to announce that there is something unusual." He continues:

"Perhaps an anecdote will illustrate what I mean. One summer a farmer patient of mine started selling off his prize friesian herd and I noticed that he started putting his best grazing land under the plough. While I was speculating what he was up to, I was called to see his herdsman, an uncomplaining Italian, who had 'flu, and so instantly I diagnosed my first case of Brucellosis, because the various observed facts suddenly formed a pattern".

(2) In the 1960s, the London general practitioner Michael Balint instituted a series of seminars in which physicians debated clinical practice. Among the patients discussed was the pseudonymous Miss Malvern, a puzzling case who was nonetheless treated successfully. The case was discussed in the Balint seminars for two years before it was realised that the breakthrough in the physician's understanding of his patient had come in a consultation in which she expressed anger.

"Only much later, in fact not until two years later, did we comprehend that this brief emotional interchange, which at the time of reporting [to the seminar] seemed casual, introductory and anecdotal, was really of great importance ... the reporting doctor had in fact used the emotional content of the interview for his overall diagnosis and treatment plan without at the time having been fully aware of its importance. Obviously the doctor had at that time perceived something in the patient which had struck a chord in him [but which he had not been able to explain to the seminar]".

(3) Many examples of general practice consultations are described by Roger Neighbour in his book The Inner Consultation. He summarises them thus:

"Let's think some more about how you tell a good consultation from a bad one. A general criterion seems to be the doctor's ability to pay attention to clues and events in the periphery of his vision" (emphasis added).

(4) Among the most difficult cases requiring diagnosis in the emergency room is the febrile child. The high temperature might be nothing, or it might be meningitis. With experience, doctors can become skilled at telling the difference, and Crain and Crain (1987) investigated the basis of their ability by comparing them with less experienced colleagues. They found

that the more experienced physicians formed a general impression of the child's health before consciously formulating specific hypotheses. They did so by interacting with the child in warm and friendly ways. They thus obtained a "feeling-sense" of the problem before they were able to say what the problem was. This was interpreted as a pre-conceptual way of knowing which preceded conscious awareness. It resulted in accurate differentiation of patients who were seriously ill from those whose high temperature was of no significance. Obviously, the doctors had learned something from their previous experience. They were able to activate this knowledge by interacting with their patients, but the knowledge was not verbalisable.

(5) Finally, a personal experience from hospital medicine. As an educationalist, I once followed a consultant on his hospital ward round. He reviewed a patient's treatment and prescribed drug A. When we moved on, his junior asked why he had prescribed that particular drug, because in such cases it was usual to prescribe drug B. The consultant said, "Well, drug B's a bit - " and here he made a gesture with two hands which I can imitate but not describe. This seemed to satisfy the junior, and we continued with the round.

Afterwards, I asked the junior doctor why such an articulate person as the consultant had been unable to explain how the pharmacological properties of drug A ruled it out for that patient. The junior replied that this was not at all uncommon. Not only was the consultant often unable to explain why he had taken a particular course of action, he was sometimes unaware of the course of action he had taken. Perhaps it should be added that this doctor enjoyed the reputation of being one of the oustanding specialists in his field.

Implications for Continuing Professional Education

The advantage of implicit knowing is that it enables us to perceive greater complexity than is possible with explicit ways of knowing, because the latter are constrained by the limited capacity of short-term memory. Physicians have to cope with complexity, and perhaps this explains why increasing expertise in medicine is accompanied by increasing reliance on this way of knowing.

The implication for continuing professional education is the need to encourage unselective rather than selective kinds of learning.

Selective learning is the term given by Hayes and Broadbent (1988) to the focusing of attention on a small number of selected variables, with encouragement to verbalise procedures for solving problems within that framework. This, of course, favours the explicit way of knowing. In contrast, unselective learning permits a wide-ranging, unconscious recording of the interplay of a much larger number of variables in the environment. Unselective learning is the way we acquire an implicit knowledge base, and two considerations follow from this.

Maximise experience

Although implicit learning effects have been demonstrated after a single trial, the task of building up an adequate implicit memory base through exposure to exemplar cases is likely to require substantial experience of the task environment. If we recognise only explicit ways of knowing, we are likely to underestimate the amount of experience required for the development of higher levels of competence in understanding patients' problems.

Avoid inhibiting unselective learning

Reber (1989) reports that unselective learning is inhibited by requiring people to search consciously for "how-to-do-it" rules and then verbalise them. To facilitate the acquisition of an implicit memory base, it is necessary to stress non-verbalised processing using techniques such as total immersion and action learning.

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THE WASHINGTON HRD CONSORTIUM: A CASE STUDY OF A PROFESSIONAL SUPPORT GROUP

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Selected members of an HRD professional support group were interviewed to determine the impact of this particular professional development activity on the members' learning and professional growth. The study found significant value placed on the members' affiliation with fellow professionals, the informal and safe atmosphere, and the richness of the dialog.

Background

I am a member of several local and national professional HRD associations (and have been very active in one); I read most of the major magazines, journals, and books pertaining to HRD; I speak and attend several local, regional, and/or national conferences a year; and I participate in constant professionally-related discussions with faculty and students at my university. Yet the one professional development activity I most look forward to are the quarterly meetings of an independent, ad hoc, local professional support group that meets in members' homes for approximately seven hours. As I thought about why my participation in this group had so much meaning for me, I decided to search the literature on professional support groups to see what the research has discovered. I found no research directly on professional support groups but did become reacquainted with Schon's (1987) work on the reflective practitioner. His question of how professionals acquire the knowledge to manage the variety of factors which confront them daily; especially when the problems are ill defined and ready-made solutions do not work, seemed to fit the reason why our professional support group was established. This question led me to the thesis that independent professional support groups can greatly enhance the learning and growth of experienced professionals through collective/group-directed learning activities. My belief is that professional support groups can provide its members with a unique blend of group-directed learning, personal support, professional resource sharing, feedback and critical reflection (in a safe environment), and professional "benchmarking" (how am I doing in relation to professional peers).

Purpose

This research study was designed to explore the above thesis by studying one professional support group in the Washington, DC area. A secondary purpose was to examine the application of the professional support group concept as part of a learning system in organizations.

Methodology

I chose the case study research method to study the the Washington HRD Consortium, which is a six year-old independent professional support group consisting of members who live and work in the Washington, DC metropolitan area. All the members are experienced HRD professionals who are either consultants, academics, or managers of HRD programs. The majority have doctorate degrees and have been very active in professional associations (primarily ASTD). They meet four times a year for one full day. Meetings consist of three major activities: personal/professional sharing, a learning activity (which may or may not involve an outside resource), and a "help" session where members can request feedback from the group on any professional concern or project.

Eleven out of the 20 members (those members that have been active in the group for four years or more) were interviewed. Summaries of the interviews were sent to the interviewees for validation of the data. Ten were returned, three with modifications to the data. A summary of the findings was then sent to the interviewees with a request for comments. None were received.

Findings

1. The members themselves were the most valued aspect of participation in the group. Interviewees all talked about their affiliation with fellow professionals that are highly respected for their knowledge & experience, integrity, personal & professional support, and caring. Comments reflecting this ranged from, "...felt it to be an honor to be invited to join the group', & "...professionals I really respect for their commitment to HRD" to "...group allows me to be me" & "...egos get left on the doorstep". The group is non-judgmental, challenging, stretching, and fun. There is an atmosphere of informality, casualness, comfortableness, and openness. "The group creates the learning environment." "...I find it a mental refreshment." "I feel enriched & energized." "The group shakes up my perception of the world."

2. The most significant topics and other content-related aspects were; TQM, discussions about governance of ASTD, behavior systems modeling, organizational learning, and transpersonal psychology. The comments related to the richness of dialog during discussions of the presentations & help sessions, networking & sharing resources. "I remember the excitement & interest of the discussions and the warmth of the people rather than the content." "The group stretches me, challenges my thinking; their insights are worth their weight in gold." "A lot of professional reflection without judgement; ideas & constructs that get put out without reservation...the inner process rather than the content or the how-to's."

Conclusions

The learning is derived more from the process than from the content. As one member stated it; "The learning comes more from the reflection & insight than from the actual information". The group provides a safe & trusting environment, yet pushes boundaries. The group is non-judgmental, yet challenges assumptions and perceptions. The group is informal & relatively non-structured, yet demands a quality of discussion that results in people feeling "energized, refreshed, & enriched".

The content of the presentations and discussions represent "knowledge-building rather than skill-development". The learning consists of new ideas, perceptions, insights, constructs, and connections rather than just information and techniques. The professional growing comes from the testing and challenging of assumptions, theories, and "inner processes". I believe the learning represents the essence of Schon's professional education concepts (with what may be referred to as "peer coaching" rather than mentor or expert coaching.)

Organizations experimenting with the "learning organization" concept would benefit from linking the professional support group approach with management or professional learning networks, which would aid in developing the commitment and involvement in the learning process.

TITLE

PATHWAYS TO PERSPECTIVE TRANSFORMATION AMONG HUMAN SERVICE PROFESSIONALS

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ABSTRACT:

This paper describes the way in which a small group of human service professionals developed a practice paradigm that fully embraced the contribution of self-help groups [e.g: Alcoholics Anonymous].

INTRODUCTION

Schon [1986] has spoken eloquently about the way in which skilful practitioners renew and reform their skills by engaging in reflective practice. At times these changes may be subtle, incremental and largely unconscious, but in other instances there may be an event or series of events that are clearly recognized by the individual who is experiencing them to be transformational in nature. Kuhn [1970] refers to this transformation as a paradigm shift, while Mesirow [1981] uses the term perspective transformation:

> The emancipatory process of becoming critically aware of how and why the structure of psycho-social assumptions has come to constrain the way we see ourselves and our relationships, reconstituting this structure to permit a more inclusive and discriminating integration of experience and acting upon these new understandings. [p.6]

In this discussion the two terms will be used interchangeably.

To the extent that we understand the way in which this shift in perspective occurs we may be able to develop more effective strategies for continuing professional education.

One transformational change that has occurred in the professional delivery of human services over the last twenty years has been an increasing recognition of the informal support provided by a wide range of self-help groups concerned with personal issues [e.g: A.A., Parents Without Partners and groups for the mentally ill]. It is my observation that as professionals encounter these groups they are likely to have one of the following responses:
1] They may reject them as being at best trivial and at worst harmful; 2] They may see them as a useful adjunct to their existing paradigm for professional service; or 3] They may develop an in-depth understanding and acceptance of self-help and mutual aid that transforms their previous helping paradigm. In this modest study I have tried to understand how ten such individuals might have experienced this shift in perspective.

METHODOLOGY

A series of semi-structured interviews were conducted with ten key informants identified as leading professionals in the field of mutual help. The interviews were structured to elicit from these people the process that they had followed in arriving at their current practice perspective.

Three of the interviews were conducted on a face-to-face basis and the balance were accomplished by telephone. The interviews lasted from twenty to forty minutes and all were tape-recorded. Every effort was made to protect the anonymity of those who were interviewed.

PERSONAL EXPERIENCE

I would like to begin this discussion by reflecting on my own personal response to these interviews. Each person and each life event represented a new perspective from which to review my own life experience. This in turn has tended to further reinforce my confidence in my own practice paradigm and my belief in certain guidelines for ethical and effective professional relationships with self-help groups.

EXPERIENCES OF INTERVIEWEES

Prior to exploring the experiences of the professionals that I interviewed let me say briefly who they were. Three were female, seven were male and their ages ranged from thirty-five to sixty. Seven were university academics, one was a full-time researcher and two were in direct practice. The latter two had Master's degrees while the balance had doctoral degrees. The span of professions included Social Work, Clinical Psychology, Community Psychology and Community Development.

FINDINGS

I have been guided by the process model of transformation [Mesirow, 1981] and by roles in the Adoption-Diffusion process [Rogers, 1983] in discussing the findings from this inquiry.

1. PREDISPOSITION FOR TRANSFORMATION

1:1 Early Contexts.

It was noteworthy that several of these people had experience with grass-roots community development either prior to, or concurrent with their professional education. Included in these experiences were: Mobilization for Youth, VISTA, and Civil Rights work. Other people reported that they had brought to their professional education some basic scepticism about the whole enterprise of professional helping and they attributed this to their family upbringing. Their comments included the following:

"I saw in my family that there were people who needed help and did not get it from professionals but from natural helpers"; and "I always had the feeling that there is something untrue about the expert or professional".

1:2 Identification with Profession[s]

Those interviewed were asked to describe how they saw themselves in comparison to the mainstream of their profession. The term 'Marginal Innovator' [Rogers, 1983] was introduced and all of those interviewed characterized themselves in this way to some degree: "I always had problems with authority"; and "[I'm] ...more of a boundary agent with a change vision".

Several people also mentioned that with the passage of time they had earned greater mainstream acceptance: "I think that the field [Self-Help] has since become very acceptable."

2. DISORIENTING EVENTS.

2: Event[s].

The interviewees were asked whether their shift towards a complete integration of mutual help into their professional paradigm was abrupt or more evolutionary. Without exception they all reported that it had been a more gradual process but all were able to identify two or more important triggering events that had contributed to their shift in perspective.

2:2 Factors adding potency to experiences

Among the factors that increased the impact of the triggering events were the following: the influence of professional mentors, the influence of graduate students and the climate of social activism during the sixties and early seventies.

2:3 Impact of transformational experiences

The effects of these various influential life experiences were described in the following ways: "I had a sense of other people's potency and resilience and my own impotence"; "You miss what gives meaning to people's lives if you overly rely on scientific rationality"; and [We] need to move from looking with clinical eyes at weaknesses rather than strengths".

OUTCOMES OF THE TRANSFORMED PERSPECTIVE

The respondents discussed the ways in which they had been affected by their shift in perspective: In reference to their teaching responsibilities they commented: "More inclined to foster self-directedness"; and "Experiential learning-if you're gonna cross a river somewhere along the line you're gonna get wet".

In regard to research the comments were" "We should see ourselves as field naturalists"; and "We ...require a new research methodology". Finally, in reference to practice there were these observations: "[We need to]... change the way we ply our trade...do away with clients and agencies; and "I try to be more like a person than a professional".

SPECULATIONS

The career of perspective transformation

It seems presumptuous to present implications or conclusions on the basis of such a modest sample group so I have chosen to call this final section "Speculations". More specifically I am interested in what we may be able to learn from this brief series of discussions about professional's ways of knowing.

An overall impression is that the concept of 'context' or 'setting' seems to be crucial for the initiation, support and reinforcement of this type of shift in perspective. Clearly the importance of these pre-professional grass-roots life experiences undermines my original assumption that inclusions of a mutual help perspective was a transformation that would have occurred exclusively after formal pre-professional training was completed.

This study appears to suggest that the educational setting is not a significant context in the transformational change process. Indeed, it appears that those who were interviewed had learning styles and other personal attributes that made them able to withstand aspects of the educational indoctrination into their professions.

The final context that appears to be important is that of the world of work. In order for a shift in perspective to be sustained it must help that person to achieve the ends that they desire. It must be internally consistent and it must work. These professionals appear to have been sustained in their effort by their close ties with self-helpers and/or their own membership in self-help groups and/or by their developing links with one another.

Professional Training

So, beyond recruiting a bunch of maverick iconoclasts with a zest for ambiguity what might we do to help professionals to incorporate mutual aid into their professional paradigm?

1. Examine the contexts that shape us: families, schools, professions and organizations. How would these contexts themselves need to be transformed in order to maximize mutual help?

2. Involve helping professions in mapping their own supportive relationships to understand how such networks buffer stress.

3. Support learners in self-directed learning and in their search for experiential knowledge through both implicit and explicit ways of knowing.

4. Encourage learners to think the unthinkable, to re-frame and to imagine unrestrained solutions to persistent problems.

5. Create situations of dynamic ambivalence and encourage a zest for reflective inquiry in this environment. Identify and teach the core skills of reflective practice.

6. Encourage learners to unpack the explicit and implicit reasoning of 'Connoisseur' [Benner, 1983] practitioners.

7. Analyse paradigms that shape our notions of 'service' and the limitations of conceptions like 'student', 'client' and 'patient'.

8. Finally, what are the personal/professional perspectives that shape our perceptions? How can one achieve a perspective that has the built-in capacity for review and revision?

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Vocational Educators' Ways of Knowing

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Abstract

How have vocational educators become vocational educators? This is the question underlying the research which will be presented in this paper. Out of a group of seven life histories of vocational educators, the author presents one that can be considered typical of the process leading to a vocational educator in Switzerland.

The Research Question

Over the years the training of vocational educators has become increasingly important, at least in highly industrialized countries like Switzerland. But how shall vocational educators be trained in order to be 'good' at their job? What shall their training be based on? What kind of professional practice should be required prior to their training as vocational educators? These and similar questions are at the basis of the present research which is currently conducted by the author at the request of Switzerland's only school that trains vocational educators. And this at a moment when the school is trying to rethink its curriculum.

Before such a new curriculum would be designed, I thought it might be useful to understand why and how vocational educators have actually become vocational educators. I decided therefore to choose persons of a certain age who have not yet passed through a predefined training program in this field. In other words, I had selected persons who have moved into this profession over the years, and now have come to teach their technical knowledge and competence to apprentices: through what processes have these persons moved into the profession of vocational educators? Where and how have they learned their profession? How have they come to, and how do they integrate their technical (professional) background with their pedagogical competence? What is the meaning of this profession for them?

I will approach these questions from the perspective of social learning, i.e., from the perspective of someone who looks essentially at social and cultural factors of a person's formative process. This also means that one single person's formative process can be considered representative of a more general socio-cultural phenomenon. In a first section I will briefly present the methodology underlying this research, i.e. the so-called life-history approach. In a second section I will then summarize the formative process of a vocational educator that I consider particularly typical. In a final section I would like to draw some generalizations from this one life history.

The Research Methodology

The methodology applied — i.e., the life-history methodology — has been developed by the author over the years, and had already been applied to environmental adult learning, as well as to the formative processes of adult educators. The application of this methodology generally comprises two stages, a first qualitative stage, and a second quantitative one. In the case of this research, I have just completed the qualitative research stage.

Between May and June 1991 five selected vocational educators had been invited to take part in this biographical seminar. In four separate steps they orally told, wrote, analyzed and finally developed a first theorization of their own formative processes. For a detailed description of the four research steps I can refer to my research on adult educators (Finger, 1989). In terms of research material, I have at my disposal (for each of the five participants) (1) notes on the oral presentation, (2) a written life history, (3) an analysis of the formative process by two other participants, and (4) a theorization of his own formative process by the participant.

Instead of analyzing in a comparative way five formative processes of a group of vocational educators — who are not in any case representative of the profession -- I think it is more appropriate, at this first stage of the research, to simply present a shortened and written life history. This is a life history of a participant I consider particularly representative of the way vocational educators become vocational educators.

Peter, or How to Live up to the Idea of Craftsmanship

Peter, 60, is a vocational educator with strong values. From teaching machine design to apprentices he has moved, over the years, into the position of teaching vocational educators in engineering and natural sciences.

One of Peter's grandfathers was a builder and later a driver of a locomotive on the Swiss railway system. Upon his retirement, he installed in his cellar an atelier with all kind of machinery. *'The common hours I have spent with my grandfather in his atelier, 'Peter says, 'are among my most beautiful memories today.'* Peter remembers in particular the exciting stories his grandfather used to tell him about his own professional experiences as a driver of locomotives.

Peter's father had made an apprenticeship as a gardener, bu;t then spent his professional life keeping the storage of a major building company in order. *'A very conscientious, committed, incorruptible, reliable yet pedantic person'* , as Peter recalls. From his father Peter learned *'how to keep things in order'*. From his mother, instead, he learned values, especially religious ones.

Indeed, Peter's childhood is harsh, financially as well as psychologically: his mother dies of cancer when he is 14 years old, and he took care of her during the two years before her death. He also suffered from Polio at his young age. In short, it is a difficult time, making him lean towards (protestant) religion which has accompanied Peter ever since. Also, because his father had spent all the money to cure his mother, Peter could not attend high school.

This is also the time of the Second World War. Peter is fascinated by military technology, especially airplanes, which take off and land at the nearby airport. But the War also constantly reminds Peter of the fact that *'we humans all live on borrowed time'*.

After the compulsory school program Peter made an apprenticeship in machine design in one of the countries' big machine factories, which builds, among other things, locomotives (Oerlikon). He found that it was a hard time. He experienced his work mainly *'as resistance, an object that needs to be mastered intellectually as well as physically'*.

However, the four years of apprenticeship were made easier by the fact that in one of his superiors — an electrical engineer — Peter found a real friend. For the first time in his life he got rid of his health problems. *'He became my personal and professional mentor. He managed to develop my mind and my body. At the job he always gave us apprentices interesting work to do; on the weekends we could, if we wanted to, join him for extensive mountain climbing tours.'*

After the apprenticeship Peter stayed with the same company. His friend urged him to continue his education. Peter decided to go to the evening school, *'in order to make a career and to secure the financial basis of the family.'* During two years Peter went to the evening technical school (Technicum) in Zürich — i.e. every evening and during Saturday afternoon. *'I experienced the evening Technicum as a window for professional promotion as well as a better and deeper understanding of technical-scientific relationships. I discovered my pleasure of learning and teaching. Through broadening my interests I avoided becoming a specialized idiot.'* Indeed, already before the end of his studies, Peter discovered his pleasure for teaching, and replaced from time to time his mathematics professor.

During that time Peter had also married with five children being born in a row. Especially his fourth child, Thomas, gave serious problems to the family, as his wife became very sick and Thomas remained abnormal until adolescence. They lived in a village in between the city and the countryside, *'a real community'* as Peter likes to remember. With his wife, Peter becomes very involved in this community, in particular via the local church. Quite logically, they visited all sorts of educational workshops related to church activities.

At the age of 27 Peter quits his job with Oerlikon, and takes a new job as full time vocational educator in a vocational school near Zürich. *'Indeed, in my job and in the evening Technicum I found my colleagues very narrow and wanted a broader, more human view of the technique.'* Vocational education seems to be his dream job. *'Despite a teaching load of 35 hours a week, I experienced my new activity as very fulfilling, because I did no longer deal with material things, but with humans.'* Peter did read a lot, especially technical and scientific literature, which he tried to translate and pass along to the students. He was particularly inspired by the learning and teaching philosophy he had experienced himself in many of the church related educational workshops.

At the age of 40 Peter makes another professional move: from being a vocational educator, he becomes a trainer of vocational educators. *'I did not only want to have a fulfilling job, I also wanted others to experience the same.'* In other words, he tried to replicate his learning process with future vocational educators. Instead of engineering and science, his main interest becomes more and more the technique or the science of teaching.

This also means that his family had to move to a new village, to which they have difficulties adjusting. Through involvements in the church and in the community Peter and his family became finally, after 10 years, full members of the community. Today, Peter is particularly involved in the 'sanctuary movement', offering shelter to political refugees. This community is for him *'an ideal symbiosis between the city and the countryside, very important for my personal equilibrium.'*

Like the equilibrium between the city and the country, Peter also seeks an equilibrium between his (religious) values and his professional field, i.e. vocational education, in particular in science and engineering branches. *'Alone or with my wife I have visited many courses, especially in community development. Some of this knowledge is of direct use for my work at the vocational school and at my present job.'* Peter seeks to integrate values and technology. . . and teaching allows him to do that. Maybe he is dreaming of past times, when craftsmanship prevailed, and where, as he once said, *'work would be art'*.

Analysis

It is difficult to say to what extent Peter's life history is typical for vocational educators. Only a quantitative research will be able to determine this. However, Peter's formative process as a vocational educator is particularly typical in light of the four other life histories also presented in the biographical group. It seems to me in particular that Peter's formative process highlights two elements relevant to the process of becoming a vocational educator, i.e.:

> — There is among the five vocational educators who participated in the life history seminar an attempt to bridge the gap between technology and man/woman, a gap particularly felt in science and technical vocational training. Becoming a teacher of vocational educators seems to fulfil this function.
>
> — This goes along with the fact that, at least for the five above-mentioned vocational educators, significant learning experiences are experiences of mentoring, like in the case of Peter's grandfather or his friend at Oerlikon. In their professional practice they seem to want to reproduce this mentoring principle, integrating in their practice the human values with the technical professional dimension.

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ROUTINIZATION AND TRANSFORMATION IN TEACHING PRACTICES

-- Potentialities for Change in Adult Education Centres[1]

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Summary

This paper examines the stability and change of teacning practices in adult education centres. The stability of practices is based on routinization, practical consciousness and tacit knowledge. The potentialities for change lay in the transformation of practices that leads to reflection and building up a more theoretical and discursive knowledge-base for practices. The paper is based on a larger development project on developing teaching in adult education centres.

Problem Situation

The adult education centres form the basis of Finnish adult education system. They organize courses in every municipality in Finland, and over 650.000 students (the population of Finland is about 4,7 million) attend to the courses every year. Despite of the general satisfaction concerning the centres and their activities, the changing environment has produced new and problematic demands for the centres.

The laws that govern the financing of the centres are changing. Combined with the growing demands of efficiency and economy that take place everywhere in society including the municipalities (owners of the most centres), there is a strong strive towards tightening the resouce-base of the centres.

At the same time vocational adult education goes strong. Not only the general opinion is becoming more favourable to maybe more learning-oriented vocational adult education, but there is also a new municipal adult education system consisting of vocational adult education centres in the phasis of creation in Finland. The competition that breakes the monopoly of the adult education centres has come to stay.

The situation is even more problematic, when it is realized that the task of the liberal adult education centres is very vague even to themselves, and that the out-spoken task seems to differ from what is taking place in the centres. Teaching in the centres is organized still mainly into two hour sessions that take place in the classrooms once a week during short semesters, and the methods of teaching are in most cases traditional.

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[1] This paper is based on papers presented in Human Science Research Conference, 1989, International Congress Managing Human Capacity in the 21st Century 1990, and Nordic Conference of Adult Education 1991. These papers may be obtained from the author.

Methodological Antecedents

To create a new and innovative teaching practice eight liberal adult education centres (with over 70 full-time teachers) started in 1987 a development project that was directed towards developing the quality of teaching in the centres. Teaching was not seen only at the level of classrooms, but also as the central activity of the centres that is essential for defining the tasks and strategies. Therefore the focus of the development project was directed towards integrating the level of teachers' activities and the level of institutional structures in order to develop the teaching practices as well as institutional tasks and strategies.

The development project adopted as a methodological point of departure an idea of adult teachers as developers of their own work. In practice this meant that the basis of development work was directed towards grassroots level, where the teachers themselves would do researching, studying, and experimenting in order to develop their own teaching practices.

The research that has been tied to the project has been an attempt to facilitate this kind of transformation, and find essential structural and personal aspects that affect stability and change during a development project.

The Formation of Teaching Practices
- From Routinization to Transformation

For the purpose of understanding stability and change at the workplace and the role of a development project in changing teaching practices, it is useful to differentiate between routinization and transformation as aspects of work practices. Routinization is defined here as the habitual, taken-for-granted character of the activities of day-to-day working life. Transformation is defined here as the process of qualitative and structural change in the work practices.

Formation of teaching practices, thus, seems to involve two kinds of processes: 1) Routinization forms the basis of day-to-day working life by building up the tacit knowledge-base and the practical consciousness of the teacher; 2) Transformation forms the basis of qualitative changes in the working life, and requires more theoretical and discursive knowledge-base and teacher's more reflective orientation towards work.

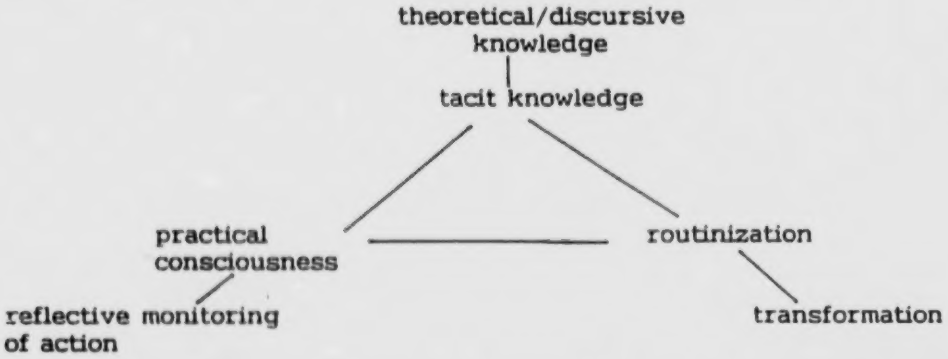

Figure 1. Formation of teaching practices - from routinization to transformation

Routinization and organization of practices

The routines and teaching practices have evolved over a longer period of time. They have their history that forms the basis for habituation and tradition. Through the process of socialization, teachers internalize the history of the institution and teaching practices connected to it. However, at the same time the teachers bring their own life history into the process of socialization and form the practices through their activities. Therefore formation of routines and teaching practices always also involves knowledgeable human activity.

The knowledge-base of everyday practices is by its nature tacit, idiographic, and contextual. It's not based on systematic and generalizable analysis, but on intuitive judgments concerning individual and unique settings. On the other hand, it's tested in practice by its functionality in answering to practical questions. It also seems to be based on tacit consensus between teachers based on their mutual expectations, on holistic conception of the setting with many interacting variables, and on allowing unexpected and unintended consequences of action.

It is also important to emphasize the contextuality of teaching and educational institutions. According to Giddens (1984), all social life occurs in, and is constituted by, intersections of presence and absence in the 'fading away' of time and the 'shading off' of space (p. 132). He emphasizes the reversible time as an important characteristic of the day-to-day routine conduct. Therefore it is necessary to take into consideration both the contextual settings and their formation in time through human activities.

Transformation of routines and practices

However, the changing world inevitably leads teachers to settings, where the routines just don't work. The unconscious habits once learned become self-defeating in a superficially similar but structurally altered social context. These situations are the ones that actually make the change inevitable. When teachers find themselves in settings that are not understandable within the old tacit thought models, they tend to reflect on practice (see Giddens 1984).

The role of historically developing practices is of central importance in the reflective monitoring of action. Because concrete teaching practices have evolved in social contexts, reflection can not include only teachers' inquiry into their own practices; it involves a critique directed towards analyzing and challenging the institutional structures in which teachers work. This perspective on reflection locates teachers as objects in socio-historical development, but at the same time active agents whose action forms the development.

Reflective monitoring as such is not capable of changing teaching practices. In order to do things differently, different instruments are needed. By instruments it's refered to both concrete artefacts and instruments of thought - signs, concepts and models. The role of instruments highlights the importance of mediation in developing human activities. Conscious changing of practices in fact demands that the developing objects of thought are transformed into instruments of thought. Representational concepts must be transformed into instrumental concepts. Perceptual-concrete objects have to be reconstructed in simplified models which act as tools for experimentation and working with the potentialities embedded in the object (see Engeström 1987).

A necessary component in development work is the production of new practices. This requires also transformation of the contexts of action. The contexts of action will inevitably change, because the changing practices are the embodiments of the contexts. On the other hand, the contexts may resist change, and this way limit the possibitities for development. This refers to what Giddens (1984) calls duality of structure, structure both as the medium and outcome of the conduct it recursively organizes. Contexts are both restricting and enabling at the same time.

Facing the stability of practices

The development project supported two main strategies in developing new thought models and practices: training and co-operation. Neither training nor co-operation did work in breaking the routines and the tacit knowledge-base of teaching. Training was organized in too small units (2-3 days each course), teachers didn't complete learning tasks, and the subject-matter was often seen as non-practical (too theoretical) or trivial. Teachers' relationship with training seemed to be paradoxical: On the one hand they demanded clear practical models on how to do it in practice; on the other hand they resisted these models, if they differed from actual practice. It also seemed to be common to compose a pedagogical 'language game', where the actual practice was reconceptualized with new pedagogical ideas.

To analyze the teaching practices and their stability more throughly it is possible to differentiate between historical, structural, and personal elements. Historical elements are inbuilt to the practices through tradition. Structural elements form the basis of the organization of practices. Personal elements on their behalf describe the subjective component of practices.

A) Historical elements: Tradition in teacher education separates theory and practice, which makes it hard to unsolve the contradictions in teaching practices through educational (and theoretical) means. Teacher education has created a pedagogical language for teachers, which can be used as an indication of competence, but which does not correspond to actual teaching practices. On the other hand the extreme relativism as the ideological basis of liberal adult education makes everything acceptable and critical argumentation hard to reach. On the other hand the myth of pedagogical autonomy and freedom, where the fear of control is inbuilt, supports the 'culture of silence' in the centres.

B) Structural elements: The organization of teaching work mainly into two-hour lessons on weekly basis during short semesters makes the differentiation between work and free-time problematic. The definition of teachers' work through teaching duties, hours spent in the classroom, outplaces many central functions of a full-time teacher, like for example making study materials, counselling, guidance, consultation, and all development work. Teachers' work usually at home and in the classroom. They don't have a workplace with a normal social structure. The working times (most of the classes are in the evening) have restructured the social networks at free time. It is surprising that a job as public as teaching can be so private.

C) Personal elements: Teachers seem to view themselves in the first place as subject-matter experts, and often highlight the unique pedagogical nature of their subject. Therefore they generally see general pedagogical training as unnecessary, and not applicable to their own subject-areas. The subject-matter based blindness of potential pedagogical applications from other areas builds up a closed system around every subject, and therefore makes it hard to co-operate and produce new practices.

Possibilities for changing practices

Where the attempt to develop new thought models and practices seemed to highlight the stability of practices, the teaching experiments showed surprisingly the transformative capacity of practices. During the first year of experimenting (1988-89) 27 different teaching experiments were completed. The second year of experimenting (1989-90) produced reports from 18 experiments.

The data collected from the experiments has not yet been sufficiently analyzed. It is, however, possible to draw some hypothetical conclusions from the initial analysis of the experiments. Some experiments seemed to have been composed only to legitimate and reproduce existing practices. Many of the experiments nevertheless included attempts to produce new ways of solving the existing contradictions. These experiments included both restructuring of teaching work as well as reorganizing of teaching/studying practices.

Through the experiments the teachers are clearly changing the weight from the traditional student-centeredness towards learning-centeredness. Teachers present new learning demands for students and direct studying towards more learning-oriented activities. Student's consciousness of his/her learning is enhanced, and his relation towards the subject matter is organized more into an inquiry. Studying is directed more to real life outside the classroom, and organized into projects which integrate learning and changing of social practices.

Conclusions

The stability of practices can be seen as embedded in routinization, practical consciousness, and tacit knowledge:

A) Routinization: The structural elements in the practices of adult education centres form the basis for the organization of practices, which provides the context for teaching work. This context has been formed through its history, and the framework it presents is in general taken as given by principals, teachers and students. The development project was seen from the beginning as an attempt to develop pedagogical practices without changing the routines embedded in the context. The stability of practices is inbuilt in these routines.

B) Practical consciousness: Teachers, who took part in the project, worked successfully during the project just as before. The mutual expectations shared by both students and teachers formed a feedback system that backed up the existing practices and did not rise contradictions and problems from the practices. Many teachers therefore saw the development project as an extension of their pedagogical thinking, which did not enhance their reflective capacity.

C) Tacit knowledge: The knowledge-base of everyday practices has been formed through teachers' experiences during their often long career. This knowledge-base does not seem to have anything common with pedagogical theories, and one can argue that during their education teachers have learned that theoretical thinking is not relevant for practice. Tacit knowledge-base of teaching therefore probably didn't change during the project.

After the strong static emphasis in the development project, it was a surprise to realize that the teaching experiments the teachers conducted in their practices did produce inventions and new challenges. This supports the argument that changing of practices has to start from inside the practices by changing them somehow by actual practitioners. Only this can produce the real oject and motive for the changing of practices. The whole three year development project in a way officially ended in a situation, where the real potentialities for change had just been found out.

The realization that the barriers for change were in fact embedded in existing practices and their structural contexts was an insight of the project. In order to change practices it is necessary to change the structural antecedents as well as the actual practices. On the one hand this means for example that teachers' work has to be defined in a new way, teaching has to be led out from courses, and lessons to more open and complex units, the spatial organization of teaching has to be taken out from the classroom, teachers should form learning communities etc. On the other hand it also means for example that teachers should risk and experiment more in their teaching, create situations that are not predetermined by tradition, problematize and invent etc. Teaching practices cannot be changed unless they are actually changed.

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SELF-ASSESSMENT:
HELPING PROFESSIONALS DISCOVER WHAT THEY DON'T KNOW

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Abstract

How do professionals determine what they need to know to perform effectively? Is reliance on individual experiences, perceptions, and preferences adequate? Self assessment represents an approach to helping professionals better understand their learning needs. This paper discusses one profession's experience with the process.

Introduction

Acquisition of a recognized body of expert knowledge and skills is fundamental to the concept of professionalism. Throughout their careers, however, professionals must continually expand and transform their knowledge and skills to incorporate advances in their field. But how do professionals know when to undertake planned learning and what to learn? Put another way, how do professionals discover what they don't know and can't do? Self assessment represents a systematic approach to that challenge, an approach that provides educational guidance while leaving the individual in control of the professional development process. This paper reviews a study conducted to examine architects' initial experiences with self assessment and its role in their professional development.

For the last four years, The Pennsylvania State University has been working with the American Institute of Architects (AIA) to develop a self-assessment system for architects. The impetus for the self-assessment system emerged from an earlier project in which both organizations participated. Sponsored by the W. K. Kellogg Foundation, the 1980-85 Continuing Professional Education Development Project focused on identifying the learning needs of representative samples of Pennsylvania professionals through the use of on-site performance assessment using such techniques as client simulations and case studies. Among the many findings suggested by that project, three were particularly noteworthy: (1) what professionals want to learn and what they need to learn may not be synonymous, (2) performance assessment is an extremely expensive tool for identifying learning needs, and (3) professionals are interested in their own personal learning needs, not necessarily the learning needs of representative samples of professionals.

Following the conclusion of the 1980-85 project, representatives from Penn State and AIA independently and then jointly began to contemplate and discuss the next steps in helping individual architects better understand their learning needs and thus more effectively pursue professional development. Finally, in 1987, the two organizations decided to undertake a collaborative project to develop a self assessment process for architects. Both parties agreed that success would depend in part on making the process relatively inexpensive for architects, easy and quick to use, confidential for all who chose to participate, and directly relevant through the provision of individualized results.

From the outset, Penn State's and AIA's goal was to develop a series of assessment instruments that covered the entire scope of architecture practice. Based on a previous job analysis project conducted by the architecture profession, initial estimates suggested that twelve instruments would be necessary. Beginning cautiously, however, it was agreed that the effort would start by developing one self-assessment instrument and an accompanying workshop each year for three years. In order to take advantage of the expertise each organization brought to the project, work was divided as follows:

-- Penn State assumed responsibility for developing the assessment instruments, scoring completed instruments, providing feedback to assessment participants, and designing the workshops.

-- AIA assumed responsibility for identifying content experts, marketing the assessment instruments and workshops, and administering the distribution and provision of assessment instruments and workshops.

Development of each assessment instrument occurred deliberately and systematically. Working with a content expert and a measurement specialist, Penn State project staff members proceeded through several steps including outlining a set of learning objectives, developing a set of multiple choice questions that addressed the learning objectives, pilot testing the instrument with a national sample of 400 architects, and producing a final instrument based on the pilot test. Importantly, a group of six to ten architects reviewed materials and provided feedback at each step of the process.

By 1990, the project had produced a self-assessment system for architects that included three instruments. The system works as follows:

1) Architects obtain a self-assessment instrument from AIA by ordering the materials directly ($35 fee) or by participating in one of the workshops developed for the content areas being assessed. Instruments distributed as part of a workshop are completed by participants prior to the workshop.

2) Architects complete the instrument in the privacy of their home or office and then return it to Penn State for scoring. Scoring is conducted by Penn State in order to ensure confidentiality and alleviate fears by architects that their professional association might be monitoring their performance. Self assessment, in this context then, refers to an assessment process that is self-administered and a scoring/feedback process in which only the individual is informed of the results.

3) Utilizing a customized computer based scoring system, Penn State scores the instruments and produces an individualized feedback report for each participant. The report contains their total score, a comparison of the individual's score with all others who have taken the instrument, a score comparison with a selected peer group, a list of learning objectives for which items were answered correctly, a list of assessment items answered incorrectly with the right answers identified, and a list of educational resources (e.g., workshops, books, journals, videotapes, computer-assisted instruction) that

address the learning objectives for which the individuals answered items incorrectly.

4) The feedback report is then mailed to the individual architect. After reviewing the report, it is the individual architect's decision whether he/she will pursue any of the recommended professional development activities.

The purpose of the self assessment process is to help architects better understand their learning needs so that they can more effectively tailor their professional development activities. By the second year of the project, anecdotal information obtained from AIA executives, and pilot test participants suggested enthusiastic support for the process. As a result, AIA and Penn State agreed to accelerate creation of the instruments and have thus far developed a total of seven. Until now, however, no systematic feedback has been obtained from those who completed assessment instruments and received their confidential reports.

Study

Purpose. The purpose of this study was to learn more about ways in which architects who received self-assessment instruments used the materials and viewed the process. Questions to be answered were

(1) What motivates architects to complete self-assessment instruments?
(2) To what extent is participation in the self assessment process itself viewed as an educational experience?
(3) To what extent does participation in self assessment stimulate participants to undertake additional learning activities on the assessment topic?
(4) In what ways do participants find the individualized feedback report of value?
(5) Are those who completed a self-assessment audit interested in ordering self-assessment instruments on other topics or recommending the process to others?
(6) To what extent does performance on the self-assessment instrument differ significantly among subgroups of respondents?

Methods

Subjects. The population from which subjects were drawn consisted of all architects who had received one or both of the first two self-assessment instruments published by the AIA: Cost Estimating, Analysis, and Control and Project Administration.

For the mail survey, a stratified sample was used based on the circumstances under which architects received the self-assessments. One category consisted of all 184 individuals who ordered one or both instruments from the AIA, unconnected to registration for a workshop or other educational activity. The second category consisted of those individuals who received a self-assessment instrument by registering for an AIA or Penn State sponsored workshop on the assessment topic. Workshop registrants were mailed self assessments for completion prior to attending the program. Four hundred of the 1,028 individuals in this second category were randomly selected for inclusion in the mail survey.

General procedures. Penn State's Office of Continuing Professional Education is responsible for maintaining the database of architects' performance on the self-assessments and safeguarding the confidentiality of individuals' scores. Only data from those who completed and returned the instruments to Penn State for scoring are included in this database.

Completion of the mail survey required the cooperation of the AIA since they alone had records of all those who received self-assessments. Before providing names and addresses of self-assessment recipients, the AIA required completion of a form describing the purpose and procedures of the planned study. They also reviewed the proposed survey instrument developed in cooperation with a survey research specialist at Penn State.

Surveys mailed to subjects were accompanied by a personalized, hand-signed letter from the Head, Penn State Office of Continuing Professional Education, explaining the purpose of the survey and the uses to which data would be put. Postage-paid return envelopes were included. Follow-up postcards urging subjects to complete and return the survey if they had not already done so were sent ten days after the initial mailing.

Instruments. Data were acquired from two sources. The first source was the 794 completed self-assessment instruments returned to Penn State for scoring. Demographic information as well as performance data were obtained from each respondent and entered in computer files using a computer software program custom designed for that purpose. The second source of data was responses to the survey instrument mailed to 584 audit recipients in August, 1991.

Self-assessment audits. Both self-assessments were paper-and-pencil multiple choice instruments designed to assess knowledge and skills considered important in the practice of a given aspect of architecture. Additional items requested demographic information about the respondent's education, practice setting, professional experience, age, and gender.

Mail Survey. The survey consisted of thirty-three items. The first ten items concerned the individual's experiences with the self-assessment process. Included were questions about the means by which the self-assessment instrument was acquired and actions taken by the architect after receiving it. Those who completed the self-assessment and returned it to Penn State for scoring were asked to complete the next six survey items. Questions focused on the respondent's perceptions of the individualized report sent to them after their questionnaire was scored and any actions they took as a result of the report on their performance. The next five questions considered self-perceived consequences of participation in the self-assessment process, particularly in regard to changes in skill and knowledge of the assessment topic. Three more questions solicited the respondent's overall opinions of the self-assessment experience. The survey concluded with a series of items requesting demographic information comparable to that obtained from the assessment instruments themselves.

To protect the confidentiality of self-assessment results and encourage frank responses to the mail survey, no identifying information was requested of survey participants. Thus no direct comparisons are possible between individual scores on the self-assessment instrument and responses to the survey. Those who returned completed surveys were invited to obtain a summary of survey results by including their business card or their name and address on a separate sheet of paper.

RESULTS

Because of delays in obtaining permission from the AIA to use members as subjects and required changes in the survey instrument, the survey was not mailed to subjects until August 22, several weeks later than originally planned. Thus, completed surveys were not returned in time to analyze data and report results prior to the deadline for this preliminary report. Results will be distributed at the October conference "Professionals Ways of Knowing and the Implications for CPE" scheduled October 13-15, 1991 in Montreal, Quebec, Canada.

Analysis. It is anticipated that two forms of analysis will be presented. Frequency counts will be used to summarize survey data. Cross tabulations will be computed to compare responses of audit recipients who ordered audits and those who received them as a result of registering for a workshop.

An analysis of variance will be used to compare the mean scores earned by subgroups of audit respondents on a given audit topic. A significance level of .05 will be used for all tests.

CONCLUSION

Conceptually, self assessment appears to be one way to help professionals better understand what they need to know and thus more effectively engage in professional development. To date, Penn State's and AIA's collaborative venture has focused on providing architects with the opportunity to engage in self assessment. Whether the expectations of the contributing organizations are being realized is still in question since the voice of participating architects has not been heard. The intent of this study is to provide an avenue through which self assessment participants can describe the real world impact of one attempt to facilitate "professionals' ways of knowing". It is anticipated that that feedback will lead to significant refinements in the current assessment system, and insights into the process of continuing professional education. Not only architects, but other professions as well, should benefit.

ADULT EDUCATOR: PRACTICE TO THEORY

Shirley Emma Leclair

Abstract

The nature of this conceptual paper is to elaborate on thinking which contributes to an understanding of learning and change by an adult educator. The purpose of this paper is to take my informal life experience as an adult educator and expand the "ways of knowing" within the context of theory. In the main thesis the theoretical rationale begins with a position of competence in educational practice using the behavioral approach in the classroom environment. This position is enriched through continuing education within a formal institution. The paper presents a personal understanding of the interaction between an adult educator and students. Implications for the development of future educational interventions are discussed.

> I should be content with as few points
>   to tip the web of my soul,
>   and weave a tapestry full of
> meaningful learning for my spiritual eye.
> Practical learning for my touch, and
> Psychological space for my luxurious wandering.

As an adult educator my tapestry is full of meaningful learning in the transition from a position of competence in educational practice in the delivery of a product - to a transition of higher competence and personal growth through continuing education. In my role as an adult educator the position of competence in educational practice involved the target population of the adult students in non-credit courses within the continuing education classroom. My teaching style was that of a classroom manager (Conti, 1985). My role as a teacher was to design and deliver a course which determined the necessary conditions to bring about student behavior that followed the objectives and met the goals (Skinner, 1971).

As a classroom manager it was a common educational practice to push for an ultimate system of simplicity in delivering an educational product to move the majority of students. As well as the design and delivery of the product, a condition of the system was to entice large numbers of students to my course, and to promote the course by 'word of mouth'. The built-in marketing scheme encouraged the students to invite prospective candidates to enroll in the next course. In this system, time was of the essence. My presentation was designed to include detailed handouts, and a display of completed projects to quickly demonstrate the task on hand. The pre-determined content allowed me the time to attend to individuals who were having difficulty learning.

In my "uneducated", seat-of-the-pants, trial and error educational practice I was a catalyst using a behavioristic approach. The behavioristic approach in the educational environment had its merits. The procedure was pragmatic and achieved in my sense impressions through cuing and personal value judgments. This process allowed me to assess what specific action on my part as an adult educator had consequences. Humour was the intervention tool that I practiced when the adult displayed unacceptable behavior in the social process of education. I found that humour as a tool could be used in a creative, friendly interaction that given the timed, critical moment changed the student's attitude, frame-of-reference, or mind-set.

After a prolonged period of time in the role of teaching adults in continuing education, I became aware of an inner need to investigate reality within the context of my experience in educational practice. It became important for me to evaluate where I was in my role as an adult educator. My informal life experience was used and expanded in the "ways of knowing" within the context of theory. I learned about the various theories in in psychology, art, and education that concerned the reality with which I was familar. My personal, informal life experience as an adult educator became the concrete substance within the learning process in the investigation toward educative truth.

New learning richness was woven into the threads of behavioral formulations within the context of perceived self-efficacy and modelling (Bandura, 1977). I discovered that observational learning is the process in which the behavior of an observer changes as a function of being exposed to the behavior of another person. These rich weft threads were intertwined with the warp of the biological component of the human personality. I became interested in Freud's (1936) psychoanalytic formulations of his 'the devil made me do it' prototype for anxiety. The proposed defense mechanisms contributed to my understanding of human behavior within the classroom learning environment. Note that I began with an investigation of human behavior that dealt with 'what conditions were necessary to bring about desired behavior in meeting certain goals which would satisfy external criteria'.

To the colourful warp of behavioral and psychoanalytic positions was added the 'rite of passage' to which all of us are entitled within the process of development through life. Theories on psycho-social development were reviewed by Erikson (1982) and restated by Sheehy (1976), Newman and Newman (1984). The stages of developmental growth is a resolution of the demands of society, including the social process of education that may be translated into the adults personal terms. The analogy, a psycho-social tread-mill may be interpreted as the process of development that appears to produce a state of tension within the person. The person's task is to reduce the internal state of tension before proceeding to the next stage of development. Understanding human development within the context of psycho-social theories contributed to my understanding of the complexity involved within the stages of growth. Flexibility is a viable intervention that is required of an educator of adults (Conti, 1985).

Cognitive style theories describe learning as something that happens as a result of the restructuring of perceptions within the individual (Bruner, 1956; Witkin, 1962, Eysenck, 1970; Lange, 1979). The restructuring process enables the learner to comprehend new relationships, to solve new problems, and to gain understanding of knowledge (Hill, 1982). Given my previous hands-on experience it was a reality that some adult learners may experience difficulty in the restructuring of task relevent stimuli in course content. Individual differences in cognitive style is an important facet in my learning as it relates to my reality of adaptative and malfunctioning modes of learning in a classroom situation. Future educational interventions are a challenge to me as an adult educator and may be displayed as the clear structuring of content material.

Awareness of individual cognitive style differences furthered the understanding of my own teaching style as an adult educator. This new learning gave me an opportunity of personal change, and responsibility for my educational delivery. The opportunity could be interpreted as a learner-centered approach that involves flexibility in delivery, assessment of student needs, personalized instruction, and the involvement of students in the learning process (Conti, 1985) [Figure 1]. Teaching and learning were no longer the warp and weft of a tapestry but became the analogy of a two sided mobius strip. My role as an adult educator appeared to change from the classroom manager to a participant in learning. This educational intervention was a continuous interaction which had the possibility to eliminate the barriers between teacher and student, provide a cooperative learning environment, enable students to identify with teachers, and find support within the continuing education environment.

FIGURE 1: TEACHER-CENTERED APPROACH / LEARNER-CENTERED APPROACH

* Classroom manager	* Interactive facilitator
catalyst	participant in learning
course designer	teacher / learners share design
delivery of a product	interactive delivery
rigidity	flexibility
lecture	discovery
focus on student change	focus on teacher / student change

There appears to be several situational factors that may influence the degree to which the continuing interactive mode may apply in adult education. These factors are similar to those formulated by Conti (1985): the type of agency delivering the program, the nature of the curriculum, type of student, and maturity of student. Research findings by Conti (1985) indicate that the teacher-centered approach appears to be more effective when teachers had to prepare students to pass specific examinations. On the other hand, the learner-centered approach appears to be more effective when skills are not needed for certification but for an improvement of reading, mathematics, and English proficiencies.

In conclusion, there is a saying that "All that is learned is soon forgotten, but the education remains". In my thinking that contributed to an understanding of my learning and change I moved from a position of competence as an adult educator to a position of higher competence through the acquisition of knowledge in theories. My 'seat-of-the-pants' informal life experience was used and expanded upon within the context of higher continuing education. Education became the vehicle by which the process of the reality of living and learning was enriched. Nevertheless, I came to the realization that knowledge and skill involves more than acquiring and utilizing the educational information.

Something happened to me as a person in the process of becoming educated besides filling the hole in the head with theory. I became more aware of the educative truth that the pursuit of the acquisition of knowledge and skill did not mean that I had arrived on the plateau of human perfection as an adult educator. Caveat educator! The analogy of teaching and learning as a mobius strip provided me with a model of a continuous process that occurs as a result of interaction with other human beings. In the educational intervention, it is important for me to understand the kairos (Frankl, 1975), or critical moment when the mobius strip of the educational journey turns to reveal teaching and learning as two different parts of the same side.

My educational journey of practice and theory, teaching and learning continues. There is a fine line between where I have come from as a practicing classroom manager with an awareness of the theories that may be applied to a learner-centered approach. Future continuous interaction will be a challenge to me as an adult educator. Educational intervention will become an awareness of the aura, that special existential moment of authenticity and vulnerability when I face the adult student as an equal participant learner in the human interaction involved in the joint venture of learning. My educational journey was enriched through the vehicle of education which includes the humanistic-existential information of the human-to-human quality of the adult student and educator relationship. The challenge that I face is to help the student over the hurdle in the rite of passage in the human condition found in the learning process. This educative intervention will facilitate the transcendence of the difficulties that are sometimes experienced by adult students in the existential meaningfulness and meaninglessness that may be found in the continuing education classroom environment.

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HOW PARAMEDICS LEARN INFORMALLY: WORKPLACE EXPERIENCE AND RELATIONSHIPS

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Abstract: This qualitative study of informal learning suggests that the potential for learning is not only in the experiences of the workplace but in the relationships in effect at the time learning from experience occurs.

In health care, continued learning among the professions is not only a mandate of many certifying and licensing boards and organizations but a necessary requirement to maintain competency in fields where obsolescence can occur with devastating rapidity and consequences. If individuals in the workplace learn informally as much or more than they do through formal education and training (Carnevale & Goldstein, 1983), then the workplace becomes a significant learning resource.

This qualitative study of the strategies employed in informal learning by a group of allied health practitioners was undertaken to provide a better understanding of the ways professionals learn informally. In this effort was invested the belief that this understanding could provide insight into ways to enhance informal learning in this setting, in part, by incorporating the lessons learned into the formal continuing education program for these practitioners.

There are two aspects of the work environment which appear to impact significantly on the informal learning process occurring here. First, the nature of the job of the paramedic is such that these practitioners operate in a world of discrete events, the calls for emergency medical assistance. Second, they perform their jobs not as individuals but in concert with a partner with whom they live and work for periods of 24 hours.

DATA GATHERING AND ANALYSIS

This case study was conducted with a county-wide provider of emergency medical services in South Carolina. Of the 56 paramedics employed by this service, 23 paramedics, 18 males and three females, self-selected for this study by completing a critical incident and agreeing to participate in other aspects of data collection. Of the 23 participants, eleven have associates degrees, nine hold the bachelor's degree, and three are graduates of certificate paramedic programs. They had been paramedics for periods of from one to nine years at the time of the study.

The primary data sources for this study were (a) a critical incident which asked the participants to write about a particular challenge each had faced on the job, (b) semi-structured interviews lasting somewhat longer than an hour with each of the 23 paramedics, and (c) extended observations of three of them within their work environment. Eight 24 hour observations were completed, three each with two of the study's participants and two observations with a third. The presence of a third party observer or care giver being a common occurrence on an ambulance, observation of the paramedics during all phases of their work shift was possible with minimal disruption of the normal operation of the unit. Observation notes were recorded using a voice activated microphone and later transcribed. Interviews were recorded and transcribed.

The unexpected finding of the importance of the partnership to the learning occurring in this setting initially obscured the meaning participants were giving to the strategies employed in accomplishing informal learning in this workplace setting. By first addressing partner interactions, modes of learning eventually emerged from the data as a dominant theme and the data was recoded to accommodate its various categories.

LEARNING FROM EXPERIENCE

Learning from experience emerges as the dominant mode of informal learning in this workplace setting. The paramedics believe that "experience is the best teacher" and "nothing beats experience." In considering how learning from experience occurs among this group of health care professionals, two significant findings are apparent. First, not unexpectedly, it is the unusual or non-routine experiences of the job which are recognized by the paramedics as the primary source of learning in this setting. They relate that "you learn on your calls [for emergency medical assistance]," "the unique calls, funny calls," "the unusual calls, weird calls," "the classic calls that would go down in the record book." Second, there is evidence to suggest that what might be a non-routine experience for some paramedic partners may be routine for others. Therefore, the potential for learning is not only in the experience itself but in how the experience is viewed in light of the partnership in effect at the time of the experience.

A Process for Learning from Experience

The strategies employed by these paramedics for learning from experience seem to describe a process for how learning from the experiences of the job occurs in this setting. That process appears to have four phases.

Acquisition phase. In this phase of the informal learning process potential learning experiences are acquired. The strategies employed for learning from experience for this group of professionals have been determined to include storytelling, making mistakes, performance of tasks associated with the job, and reflection on experience while documenting one's performance. Storytelling, "trading war stories," used as a strategy to acquire potential learning experiences suggests that personal involvement is not necessary for an experience to be acquired and significant learning to occur.

Formulation phase. In the formulation phase acquired experiences are filtered through the sieve of past experiences. This is the point at which acquired experiences separate out into routine and non-routine. A perceived need to know seems to be the trap which designates an experience as non-routine and places it in line for consideration during subsequent phases of the learning process. The perceived need to know may be immediate as occurs with time-limited critical calls. It may be delayed as occurs when the paramedic becomes aware of a mistake or it may be recognized in the experiences of others as occurs when paramedics recount their unusual calls.

Learning occurs in the formulation phase but it is implicit. It is the nature of the job of the paramedic that learning from experience which is implicit may never become explicit because the situation may never arise where the new learning can be tried out. Yet, in acknowledging a need to know, the participants in this study demonstrated an awareness that the potential exists for this new learning to be vital to their job performance.

Experimentation phase. Learning, while not yet explicit, is further developed during the experimentation phase where learning acquired from personal experiences or the experiences of others is tried out. This experimentation often involves risk taking as new learning is tested against organizational norms, practice standards, or existing relationships. In certain instances, as during critical medical emergencies, experimentation may follow directly upon the recognition of a need to know. At other times, experimentation is delayed until conditions exist which make it appropriate.

Confirmation phase. Experimentation can lead to rejection of the learning as dysfunctional or to a fully developed expression of new learning that then becomes a part of the repertoire of the paramedic in dealing which the situations of the workplace. This confirmation of learning is the fourth and final phase of the process of learning from experience. It is responsible for removing from future acquired experiences the perceived need to know for it is through the learning process that the unusual becomes routine.

LEARNING THROUGH RELATIONSHIPS

In this organization, working with a partner is the workplace relationship which provides the most significant learning opportunities. In the course of this study four types of partner interactions were apparent from the data.

Partner Interactions. Long term partnerships, where the partners consider themselves equals, were often described as "two people that act as one." However, partners do not consider themselves equals when the organization pairs two paramedics in a mentoring type relationship. The mentor is described as a "backbone" for the paramedic being mentored. Yet, when the patient's condition warrants, mentors admit that they step in and assume control. A third type of partnership exists when experienced paramedics are paired for relatively brief periods. Here there appears to be no benefit, "no meat," in investing the effort necessary to make the partnership work. While the partners may consider themselves equals, individualism characterizes this type of partnership. The final type of partnership is most evident at the beginning of a long term partnership when partners want to but do not yet consider themselves equals. In the early phases of the relationship, these partners are reluctant to trust each other and end up "banging into each other" as each assumes full responsibility for completion of the tasks of the job.

Routine and Non-Routine Partnerships. Further analysis suggests that only one of these four types of partnerships can be considered a routine experience for the paramedics involved. That is the long term relationship where the partners consider themselves equals. The other three partnerships are non-routine in the sense that they are all described as challenging or disconcerting experiences for the individuals involved.

DISCUSSION

It is generally agreed that learning from experience occurs most frequently when one is faced with an unusual or non-routine occurrence (Argyris & Schon, 1974). Studies of workplace learning have also identified relationships as an important mode of learning (Marsick & Watkins, 1990). This study would suggest that the relationships themselves can be the unusual or non-routine experiences. When this occurs, one recognized mode of informal learning, learning from relationships, becomes the event of another recognized mode of informal learning, learning from experience. It is proposed that paramedics learn to partner through the same process in which learning from other workplace experiences is accomplished.

The process for learning from experience is presented here in phases which appear to be sequential. While such sequences are often looped (Marsick & Watkins, 1990), the notion of a closed circle, suggesting as it does that one can enter the process at any point and continue on, does not appear to fit either the phase descriptions or the data. The situation may never arise where one could experiment with and confirm new learning thereby completing the process and closing the loop.

It would appear that the learning sequence can be applied to the experience of working with a partner and that learning to partner means that an a non-routine experience becomes routine. However, the route to a routine partnership does not appear to be through all types of non-routine partnerships. If one examines the three types of non-routine partnerships, only in the case of new partners beginning a long term partnership is the need to know invested in the partnership. By attending to this perceived need to know how to partner and experimenting as partners and with their partnership, the confirmation of learning occurs as a partnership where knowing how to work together is tacit and actions are spontaneous.

The importance of learning to partner can be visually demonstrated if one looks at routine and non-routine partnerships in terms of the routine and non-routine experiences of the job. Viewed in this manner four combinations of partnership response to job experiences are possible to elicit from the data. These responses are displayed in Figure 1.

Figure 1. Responses to Job Experiences by Paramedic Partners

		PARTNERSHIP	
		ROUTINE	NON-ROUTINE
EXPERIENCE	ROUTINE	SPONTANEOUS	TANDEM
	NON-ROUTINE	SYNCHRONOUS	INDIVIDUAL

The findings suggest that in the confirmation of learning to partner is also the know-how to handle the routine and non-routine job experiences within the context of the partnership. These paramedics describe spontaneous performance to situations which both partners perceive as routine. In non-routine situations they recognize the need to problem solve, innovate and invent by asking each other questions, and test out solutions until the problem is resolved. This learning process is suggestive of Schon's (1983) reflection-in-action. The difference is that the process is one engaged in by both partners in a synchronized fashion whereas Schon's descriptions are of professionals engaged in a highly individualistic process. The responses to the non-routine experiences of the job by paramedics in routine partnerships have their foundations in the partnership but are not encumbered by it. Because the partnership is a routine experience, it does not interfere with the demands of non-routine job experiences. The learning process proposed would hold that the longer the routine partnership persists, the more acquired experiences the partners will categorize as routine. This suggests that the routine partnership has the potential to be an increasingly effective working relationship as more job experiences are handled spontaneously.

Paramedics engaged in the three non-routine types of partnerships differ in their responses to the experiences of the job (Fig. 1). The evidence suggests that when the job experience is recognized as routine, the approach of these partners is to handle the experience in tandem with one partner taking the lead and the other following. That they respond to non-routine experiences as individuals is quite clear from the data. Decision making theory (Simon, 1965) suggests that the volume of information available to individuals from which decisions are made forces choices about that which will be considered. It is proposed that when faced with two non-routine experiences, the job and the partnership, each paramedic partner chooses to ignore the partnership and attend to the job experience and they do so as individuals. This, too, has significance in terms of the effectiveness of the partnership.

CONCLUSION

It is easy to get caught up in the traditional ways of understanding and explaining adult learning, i.e., self-directedness, learning from experience, critical reflection. The story here, however, is not of individual learning but of a unique arrangement for learning, learning with a partner. While the concept of the health care team approach to patient care has been incorporated in the workplace, little attention has been giving to the individual working relationships and their impact on workplace learning and effectiveness. The significance to learning of working with a partner suggested by this study of paramedics suggests that other professionals could benefit from a greater understanding of the dynamics of work relationships.

It was hoped at the outset of this study that a greater understanding of how paramedics learn in the workplace could provide clues to the design of more effective continuing education programs and improvement of the workplace as a learning environment. It would appear that the strategies for learning informally in this workplace setting provide a blueprint for a program design which incorporates the practitioners' experiences and encourages the practice and use of the informal learning strategies in the workplace.

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A Missing Link Between Learning and Professional Practice: Professional Dilemmas and the Evaluation of Professionals

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Schon (1982, 1983), Argyris (1982), and others have asserted that the professions are in something of a state of crisis, due largely to the inadequacy of the technical knowledge on which their power and expertise is based. Schon remarks that those who are reviewing the adequacy of professional practice have concluded that "...professional knowledge is mismatched to the changing character of the situations of practice--the complexity, uncertainty, instability, and value conflicts which are increasingly perceived as central to the world of professional practice" (1983, p. 14). Professions play a central role in our society and their aims are grandiose and social -- to bring justice, to restore health, to develop minds. But criticism of the professions is rife -- criticism for their failure to live up to the aims and standards set by the professions themselves. Criticism of the legal profession is especially virulent. Professionals, attorneys included, are themselves unhappy and seem confused by changes, criticism and dilemmas they face in practice.

A study conducted with a county Office of District Attorney included interviews with 15 attorneys focused on descriptions of what these attorneys judged to be "good" or "poor" performance, and discussed specific issues relating to an evaluation system being developed. In these interviews problems, dilemmas, frustrations and complexities with the profession were revealed. These attorneys face on a daily basis, situations which call for understanding and skill that frequently falls outside the technical arena that is the focus of legal education. What was interesting and more than occasionally poignant was the way in which these professionals dealt with these complexities and dilemmas. When these 15 professionals talked about their work, especially when they talked about instances of good or poor performance, the descriptors that occurred most frequently were 1.) the complexity or difficulty of the case or work, 2.) their skill in their work with victims and their families, 3.) the need for "good judgment", 4.) the use of effective strategy, and 5.) the quality of their analysis of the situation or case.

Characteristics of Good Professional Practice

Complexity had to do with the intricacies of cases, or the number of factors to be taken into account. Difficulties included some limitation in evidence or witnesses that had to be overcome, or working with problematic victims and family members. For example, Terry Ann*, who heads a division that prosecutes "special crimes" -- white collar, public integrity, and capital murder crimes -- describes the difficulty of tracking a complex white collar crime. "But in the actual trial of things up here, the biggest problem we're gonna have is complexity.... Because everything we're going to deal with, short of the capitol murder cases are gonna be paper cases." She points to several cardboard boxes filled with papers sitting in a corner of her office and says, "....each one of those is a potential exhibit. Something to get into evidence and lay the predicate for. .... It's not something the judge is familiar with, because he's used to doing burglaries and routine penal code stuff." Weaving together the story of these cases takes judgment and imagination, according to Terry Ann, and if the attorney doesn't have a clear picture, neither will the jury. She says, "In a big white collar case, for instance, you may never get a good feel for the total picture of your case--how it really is gonna come out for you in front of a jury. Because you can get bits and pieces from witnesses, but you don't have any cross examination in there yet, and other things. And so [problems come from a] lack of vision almost...... You have all these long stretched out things about corporations and fiduciary relationships and small business loans and stuff, and you just get.... you get lost".

The second most common theme in good performance for these attorneys was dealing with clients--vicitms and their families. It is here that the largest number of critical incidents was gathered. It was common practice for these attorneys to spend time discussing the case with the victims and their families. Perhaps the most poignant example of attention to a victim and family, and a story that revealed tension in the role of the professional came from a woman who was working in the juvenile crime section. Paige had recently come to the office from another county DA's office, and told this story in response to a request for an example of good performance. "Well, there's one now that I felt pretty good about. This case was of the little boy that torched this other kid on fire.... " Paige recalled calling the mother of this child while he was in the hospital to receive treatment:

"And so I finally tracked down that he was in some special Shriner's hospital...And I called, and I reached the kid's mother, and I said, 'I'm from the DAs office and I'm just kind of

> concerned. How's your child doin'?' And we spoke on the phone for about 40 minutes. And afterward she said to me--and this made me feel so good--'I just want you to know, that you are the only person who has called me that has not made me angry'. She said, 'People have called and have been asking questions that I have found intrusive, and insulting, and just completely insensitive. People from the press down to other agencies. And for some reason, there is something about the way that you did this that did not anger me.' And I had established a very good relationship with her since then."

Paige goes on to talk about how the mother had invited her to come visit when they returned home: ".... and I'd never done this on any other case -- but, I made a trip to the mother's home." This presented a dilemma for Paige because she questioned whether visiting the family in their home was "professional" and whether this behavior would be acceptable to the office. Yet she had come to respect this mother and was deeply touched by the invitation. She describes making the decision to go, but not telling anyone in the office, and going in casual clothes (not "professional attire") at night. Although her judgment in this instance was confirmed by similar incidents from others in the office, for Paige, this was a challenge to her sense of what was both "right" and "professional".

The third most frequently discussed aspect of good performance was that of judgment. The lack of good judgment was cited as the most common cause of poor performance. Judgment in the work of these Assistant District Attorneys included the kind of sensitivity Paige showed in building a relationship to the victim's mother; it included sensitivity to issues of public interest; and to complex cases like those cited by Terry Ann. Judgment was required in deciding which cases to pursue and what punishment to seek, and was required in dealing with defending attorneys and judges. Judgment is also involved in "ferreting out motivation problems" of individuals who might be seeking criminal prosecution out of vengeance or primarily for financial gain. John, a managing attorney states: "Judgment involves [knowing] that there are two sides of every story, and not rushing in until you know the other side of the story." He states what other supervising attorneys believe as well: "That [judgment] is a difficult thing to teach, and a hard thing to learn." Poor judgment, according to Michael, another managing attorney, came most often from "improper exercise of authority and power....failure to appreciate the power that you've got and the necessity of exercising it carefully."

One critical incident that demonstrated judgment also shows the tension in handling authority wisely. This incident involved dealing with a family who was very angry because the Office was seeking to negotiate a settlement for less than the family felt was just. Greg began trying to work with them. After talking to them several times, including at home at night, Greg made a decision that shifted responsibility from the family to himself. He described the situation this way: The husband of the victim "didn't feel like he could compromise. I've seen this before. To compromise and give [the confessed killer] any leeway, any lenience at all, that this would be a dishonor to their dead one. I think you realize that, and you think about that. It's not even fair to ask them to compromise..... because how can they do that without betraying.... So I just told him: 'It's my decision to make, it's an uncomfortable decision, but I have to make it and it's not even fair to ask you to agree to it, so I'm not going to ask you to agree with it." The family did not go to the news media as they had originally threatened and were satisfied with the result.

Frustrations, Problems, and Dilemmas in Practice

In discussing these cases and their work, the attorneys revealed frustrations, tensions and dilemmas they face in their professional practice. The frustrations and tension come primarily in three overlapping areas. First, the seriousness of the cases with which these attorney's deal and the impact they have on human lives creates tension. Ellen, in child abuse says this: "Every time I get to that bucket [of new cases] back there, which is every so often, I'll pick up a case and it will be horrible! And I'll think, 'My God, this has been sitting in this bucket for four months!' And there are all these people out there who are traumatized by this, and it's just been sitting in my bucket.."

A second common source of frustration is the justice system itself -- a system fraught with problems, limitations, and changes. Besides the slowness of the system resulting from backlogs, there is the constant threat that hard fought victories may be overturned for technical reasons or because a change in the law is made retroactive. Herbert describes the situation colorfully: "You can't guard against this stuff. You tried it right and all of a sudden, up jumps the devil and they say, change the rules! .....Frustrating!"

And finally, there is the difficulty of working with victims and their families, including explaining to them the way in which the system operates. Paige, who works in juvenile prosecution talks about the difficulty for herself and the families: "The worst are the parents of kids that have been sexually assaulted. Those are just awful. Because there's no way of pacifying a mother with 'We're sorry it has taken six months to bring this to trial'. Because her little girl is now in intensive therapy, and [doing] all kinds of bizarre acting out behaviors that the child never had before this 14 year old male baby-sitter diddled with her. There's just not much you can say to those people... Because if you were in their spot, you would have killed the kid who did it."

These factors lead to worry and burnout. Elliot remarked that the possibility of being overturned weighs on him: "In that case I just told you about, where the court of appeals reversed it... you second guess yourself and wonder if ..... there was something you could have done at the trial stage to remove any doubts that evidently were raised." Sam reflected on an instance when he did not get the indictment he was seeking from the Grand Jury. "You wonder, were they punishing me for arguing with them or for telling them that's not relevant or what? I've thought about that case a hundred times." Ellen says, "You'd go crazy here [in child abuse] if you stayed too long." And John talks about how these cases impact him. "So many cases...so many cases...I try to forget the cases as soon as I can... I find I tend to dwell on them and really feel them very deeply...I find that if I'm not careful I get real crazy... It's easy to burn out."

In addition to frustrations, these attorneys live with tensions and face dilemmas on a day to day basis. The dilemmas often have to do with maintaining a balance -- a balance between being a tough prosecutor and working peaceably with the judge to keep the cases moving; between responding to the victim and public's desire for punishment and safety, and seeking a verdict that seems just by the attorney's and office's standards and in accord with the evidence available; between being fair to defending attorneys without being either overly hostile or too accommodating out of personal animosity or friendship; being sympathetic to both the victim and the defendant; and finally, being personally involved with their work, and yet not letting the outcome sought be motivated by ego or personal ambition. Sam describes the tension of the last dilemmas like this: "You always say, *my* case, *my* witness, *my* --you go there and you remember, I'm not going to get a commission off of these. It's... I want justice to be done, not what I want to be done." John contrasts the work of two attorneys who got personally involved in very difficult cases that had great public interest. One attorney who was trying an apparently racist motivated murder became ineffective in the trial because, according to John, "Evelyn got so overwrought trying the case that she couldn't finish the trial...couldn't keep on going. And that was a mistake on my part to put her into that. The thing that was critical to that was that she got too emotionally involved... I put her into a role of carrying the banner for the black community, and that was a mistake.... If you invest too much of yourself it becomes a matter of personal pride and that gets in the way of a just result." He then describes Terry Ann's handling of a gang rape of a young woman. "Terry Ann tried it ... and it nearly killed [her]... Terry Ann got totally immersed in the case. Until it became deleterious to her health, but without clouding her judgment. In other words, she did not consider herself to be carrying the banner for woman kind... She carried the banner of justice instead of the banner of personal validation.... You have to be able to look at it as not validating you personally, but as supportive of the concept of justice."

The degree to which winning was a significant measure of good performance seemed to be a source of confusion for these attorneys. Comments were almost equally divided, including, between males and females, about the significance of winning. Several attorneys who stated that winning was not the critical measure of performance, seemed to contradict themselves as they discussed specific incidents. Greg discusses the problems with using winning as a measure of performance in evaluation: "...You can't have a result-oriented evaluation system I don't think... because, you know, when you have criminal cases and you try to juries, [they're] all different, the cases are all different, and theoretically we're just suppose to see that justice is done, and so we have always stayed away from any idea that we should measure somebody by the total number of years they get on their cases and stuff like that." Greg goes on to describe what occurred in another county which used a results-oriented method has been used for evaluating attorneys. "The prosecutors are all out there competing to see how many years that they can get on all of their trials so that they lose sight of the idea that they are trying to see that justice is done and get a just verdict, but they're out there trying to rack up a high number of total years so that they can be promoted."

As Schon and others have suggested, there seems to be little in professional education that would prepare these attorneys for the situations like the ones described above. Professional education based on theoretical knowledge measured against a standard of science with an increasing focus on technique is not sufficient for situations that require judgement, a high level of interpersonal skill, commitment to values that may fall more in a paradigm of character and virtue than objective professionalism, and some way to reason about larger social problems and aims. It is this kind of knowledge that seems to lie at the heart of professional practice for these attorneys.

Working Through Problems and Dilemmas

In spite of the limitations of professional education and technical know-how, these attorneys do function within the justice system, working competently for the most part. They deal with tensions and changes, and are usually able to maintain the precipitous balances required to avoid being paralyzed by these dilemmas. What helps these attorneys deal with the difficulties of practice? In these interviews, attorneys were found to draw on three things: 1.) a sense of team or community that supports dialogue (11 of the 15 attorneys mentioned this specifically), 2.) a commitment to learning, and 3.) clear values and aims of the Office that provide a focus on service and justice. Lauren talked about how others helped with the difficult balance needed in dealing with defense attorneys. "I was concerned that I was so angry with the [defense] lawyer who is not a pleasant person to be with, that I was being unfair to his client. So I went and said, 'Greg, listen to the fact-scenario of this case', without telling him who the lawyer was and that I was mad. I said, 'What would you do?' He did just what I recommended. ...I wanted to make sure my perception was right, that I was doing the right thing for the case and not because the lawyer was a jerk." Third chair trial attorneys who are the least experienced in the office share an office with second chair attorneys who are slightly more experienced. This leads to "sharing ideas on what a case is worth", co-operative problem solving, and help in interpreting confusing or ambiguous reactions from victims or witnesses, or other attorneys.

The second factor that helped and was valued in this office was learning. The attorneys reported learning by watching others; through their practice, especially in handling new assignments; by getting feedback, especially from their supervisor; by sharing responsibilities with someone more experienced; and through questioning and discussion. The primary purpose given for the development of an evaluation system was for learning and professional development. John's first response to the question about good performance was this: "'Optimum' [performance] to me is maximum personal growth during the time they work here. I want them to grow as people, and that requires the inculcation of values such as team work and cooperation, loyalty, honesty, integrity; and feedback as to those values that have been inculcated... and an ability to look inward....".

It also seemed that values, and the larger purposes and the aims of the Office carried these lawyers through the myriad problems, confusions, and dilemmas. The desire for trial experience was mentioned by 5 attorneys as motivation for working in that Office. But working with victims and their families and serving justice and protecting the community are more commonly cited aims of practice. Sam commented on his reasons for leaving a private law office and coming to work for the District Attorney: "... the trial experience -- plus I'm real corny, patriotic type. I love serving the people. I feel like I'm working for John Reidman but I'm serving the people of Rosten County. I love that. That's corny, but I do." Paige comments, "I didn't take the job to be a prosecutor. I took the job because I wanted to be in a kind of attorney position that would be a combination of social work and the law...... Here, I think it's very much [that way]. I love this job. I absolutely love it." As the attorney supervising the intake section commented, "More people are willing to try a case that is weak on detail but strong on justice." The commitment to learning and growth, the particular values which seem to be both espoused and lived out, a sense of community within the office in which reflection and dialogue are common, and a shared commitment to justice and service provide guidance and support that go beyond the limits of technical knowledge. That is not to say there were no contradictions, conflict or confusions. There were--including some confusion about what it meant to be ethical and how best to achieve justice. Nonetheless, there seemed to be a kind of "common wisdom" underlying the practice of these professionals.

Cultural Critiques and the Professions

In Habits of the Heart, Bellah, Madsen, Sullivan, Swidler and Tipton talk about the degree to which individualism has become a dominant paradigm in contemporary American culture and how it leaves us without a language to explain commitments beyond our personal desires. Lasch (1979) describes the current cultural predicament in which professionals are operating as one in which we have replaced "character building with permissiveness, the cure of souls with the cure of the psyche, blind justice with therapeutic justice, philosophy with social science, personal authority with an equally irrational authority of professional experts" (p. 375). Sullivan (1986) theorizes that we have become so dominated by philosophical liberalism's insistence on individual freedom and expression, that we have lost our ability to reason together about public ends. And Alistair MacIntyre (1984) talks about the difficulty of moral reasoning in a culture that has lost the language and story that underlie theoretical and practical morality. This predicament, he feels reduces "moral judgment to nothing but expressions of preference, expressions of attitude or feeling" (p. 11f). When the stories and conversations in this study are examined, elements that fit these critiques of culture can be found. Paige sometimes wants therapy rather than punishment for the adolescents. Attorneys often stay 4 or 5 years, gaining valuable trial experience before they move on to private practice, advancing their individual careers. And the hottest issue discussed was one in which the attorneys felt their privacy was being invaded by being asked to participate in the political process. But that is not all.

Each of the critics--Bellah, Sullivan, Lasch, and MacIntyre suggest that remnants of communal and public commitments and values exist--often unarticulated and fragmented--that draw the individual out of the private world of experience into meaningful engagement with others. Such a "remnant" may be evident in the critical incidents and discussions in this Office of District Attorney, where values of charity, honesty, courage, humility, compassion, and truth seeking seem to guide action as much as self-interest and the protection of individual freedom. Staying in contact with victims long after the case is settled (which is not uncommon), refusing to take credit for winning a difficult case (as several of these attorneys do), working beyond what is comfortable either emotionally or professionally, openly acknowledging mistakes and dependence on others, being fair when it is easier to be angry or vindictive, tolerating ambiguity in the hope of finding a clearer truth--in these and numerous other ways the attorneys reflect values and take actions that go well beyond the fragmented individualism that is the hallmark of our time, and thereby contradict the criticism that professionals have lost the will for service.

Conclusions and Implication for CPE

To revisit the issue raised at the beginning of this study--is professional knowledge adequate to fulfill the espoused purposes of the professions? We can say, not for this group of district attorneys, if by professional knowledge we mean that garnered in a typical law school. What is noteworthy is both the evident need for other forms of "professional knowing", and the ways in which this group of attorneys seem to possess, develop and use other forms of knowledge and draw on compassion, commitments to larger ends, and shared values to guide them. The thing I was most struck by as I looked back at the wealth of material gathered for over a two year period for this study is how messy it all is -- the justice system, the operations of the office, the way in which we struggle to work out what it means to be a professional seeking to satisfy both individual aims and a need to contribute to something larger than ourselves. Small wonder we seek the closer boundaries of technical rationality and the more comfortable limits provided by an individualistic focus. John's comment is a fitting summary: "....So many of these incidents or anecdotes could be a basis for a movie.... they're very dramatic... great theatrical or moral lessons.... Being here involves a constant look at eternal moral questions... you look at yourself because you look at them." This vision of professional practice is one that calls for judgment based on moral and practical wisdom, more than it calls for technical know-how or effectiveness.

What are the implications of this study for those working with professionals in organizations or through continuing professional educations. First, both the development of an evaluation system and evaluation itself can be a tool for reflection on practice and for support of professional development. Both the areas of weak performance identified in most evaluations, and the critical incidents gathered in the development process provide data from which to identify more specific educational and development needs. Looking at the experiences of these attorneys, it seems possible to conclude that CPE ought to use teaching models that include a dialectical process that encourages reflection and critical thinking, and that CPE designers should select content which raises issues that call for moral reasoning and judgment. Finally, those instructing professionals might become more aware of the "common wisdom", good judgment and shared values that are already present, and support the application of those to incidents and dilemmas from actual settings of practice.

Note: All names have been changed to protect the confidentiality of the respondents.

A New Conceptualization of the Development of Moral Reasoning

Carol Beaugard, Ed.D.

The hospital nurse spends more time with the patient than any other member of the hospital health care team. It is the nurse who is physically present to attend to the patient's needs 24 hours a day. In this role, the nurse observes the patient over long periods of time, decides when to implement medical or nursing treatment orders, and when to report observations to others who then make decisions about the patient's treatment. In this unique role of front-line decision-maker and constant care-giver the nurse has a great impact on the outcome of the patients condition as well as on the decisions of others.

Decision making in the hospital setting however, is often problematic for the nurse. The primary source of decision-making problems are conflicts which arise because of the multiple roles and interpersonal responsibilities of the nurse in this setting. The nurse's most critical responsibility is to the patient, not only in the role of care-giver but also as advocate. In this role the nurse is expected to represent the patient's best interests to the health care team. As a member of the health care team and hospital employee she is expected to interpret physician's orders and decide whether or not to implement these orders. In addition, as a hospital employee, she has responsibility for interpreting and implementing hospital policies and procedures. Superimposed on the foregoing is the nurse's responsibility to herself for upholding personal values and standards.

In summary the hospital environment constantly presents complex problems and changing circumstances. The nurse has multiple responsibilities to the patient, physician, the hospital and herself in this environment. These responsibilities often make conflicting demands leaving her with practice dilemmas. These situations are often ethical dilemmas where two values, such as virtue and duty, are in opposition. These dilemmas lead to questions of what is the right thing to do, what ought to be done.

Despite the critical position of the nurse with regard to decision making, little is known about how these professionals cognitively construct information in order to make practice decisions.

Most of the studies of moral reasoning of nurses are based on Kantian theory of rational decision making which focuses on generating ethical principles on the basis of reason. Reason occupies a central place in this moral theory as a curb to inclination rather than as the originator of action. The tools used to measure the moral reasoning of nurses almost exclusively derive from Kohlberg and the results of these studies have yielded inconsistent conclusions.

The studies of Menhall (1980), Murphy (1981), Ketefian (1981), Felton and Parsons (1987) and Nokes (1989) have consistently found that nurses score in the conventional level of Kohlberg's scale. Educational variables such as type of education, level of education and specific content material in curricula have been unrelated to moral reasoning (Mustafa 1985, Kelmer 1985). Crisham (1981) found that nurses favor the practical as opposed to ethical considerations and that this predisposition toward the practical is not related to length of service. Nokes (1989) found that years in hospital nursing relate negatively to scores on moral reasoning scales. One is left to question whether or not experience in hospital nursing decreases moral reasoning.

In my dissertation research I propose that there are several explanations for inconsistent results in these previous studies. First, that Kohlberg's stage theory of moral development as conceptualized is inadequate to describe the complexity of adult moral reasoning and second, that existing instruments are inadequate to accurately measure adult moral reasoning. Kohlberg assumes that individuals universally approach moral reasoning from a justice and rights perspective. The results of his studies are interpreted hierarchically with women considered to be less morally developed than men. Gilligan claims there is gender difference and that women approach moral reasoning from a perspective of caring and responsibility. Another problem with stage models of moral development is that in Kohlberg's linear sequential model higher value is place on autonomy as opposed to relatedness. In addition observations of regression in subjects cannot adequately be accounted for except to assume that the subject was initially evaluated incorrectly. With regard to instruments the use of hypothetical dilemmas in most prior research elicit more "rational" reactions from subjects than real dilemmas which tend to elicit more "relational" reactions from subjects. In addition, the questions used in prior research to probe subject's thinking and alter dilemmas reflect the values of the researcher.

I decided in my research that if I wanted to understand both the perspective of the subject that I was studying and their thinking processes I had to look through the subject's eyes. In addition, the interpretation of the data needed to be based on the data themselves and not on any theoretical perspective that the researcher might bring to the process of interpretation. To accomplish this I designed a two-phase study. In phase one, data about the real life dilemmas experienced by hospital nurses were collected to create an instrument that could be standardized but would retain the reality of experience of hospital nurses. Data for phase one were collected with a demographic questionnaire and a critical incident questionnaire asking for a description of a real ethical dilemma in which the subject was involved. 649 questionnaires were distributed and 75 were returned. Analysis of the data indicated that the dilemmas described by the nurses centered around conflicts between what I identified as their roles of patient advocate, handmaiden to the physician, administrative advocate, self-supporter and colleague supporter. The most frequently described conflict was between patient advocate and handmaiden. It happened that a dilemma described in one of the clinical incidents reflected the concerns expressed by the subjects. I decided to use this dilemma with minor revisions as the standardized dilemma. The standardized dilemma presents a situation in which a young mother who is a Jehovah's Witness is in need of a blood product to elevate her blood pressure so that she can receive a life-preserving treatment. The nurse's conflict is created because she needs to be concerned about the patient's wishes (patient advocate) but is ordered by the M.D. to administer a blood product and not tell the patient (handmaiden) what the medication is.

Contextual descriptors were identified from statements made by the subjects about specific issues and factors in the environment. They were categorized as follows: patient characteristics, authority issues, colleague characteristics, questionable practice issues, support issues and reporter characteristics. Questions were developed from these data, (for example: what if the patient was unconscious? what if you were the head nurse?) to be used to probe the subject's thinking process.

In stage two, twenty-one nurses from three different hospitals were interviewed about the standardized dilemma. In the analysis of the data what emerged was that in the process of moral reasoning subjects consistently juggled the relationship of self to the other persons in the dilemma. In this juggling three patterns emerged that I label "orientations". They are labeled "self-oriented", "other-oriented" and "integrator-oriented". These styles are characterized by how the subject orients the self to the other persons in the dilemma.

The following is a description of my findings:

The "selfs" are dualistic and egocentric in their thinking process. Abstract principals are considered rules. These individuals have difficulty seeing others needs. New information is limited and the subject listens predominately to the self. Responsibility is defined in terms of the self. Past experience and subjective feelings are relied upon heavily. There is little tolerance for anxiety and a need for expediency is demonstrated.

"Other oriented" subjects are centered in discussing what the other persons want. A sense of connectedness with the other is paramount. Information gathering is focused on determining what others think, want, need, etc. Responsibility is defined in terms of the other. These subjects are feeling oriented and much attention is paid to the affect. They are able to tolerate more anxiety but the opinions of others are more heavily weighted then their own opinions.

"Integrator-oriented" subjects understand the relationships among those involved are inter-dependent. The self is viewed as a facilitator in this situation. Clear boundaries between parties exist. Abstract principals are viewed as guidelines to critical thinking. These subjects struggle with their own inner voice, the voices of others, culture and society. Responsibility is viewed as shared by all. Anxiety is well tolerated and the focus is on all parties being fully informed so that all options can be fully explored conjointly.

Identification of these three perspectives provides an answer to my research question "What identifiable differences arise in the way subjects resolve the dilemma?". However, the importance of this finding does not lie in the conclusion itself but rather in the realization that what Kohlberg and Gilligan did in their research was to interpret through the lenses of specific value systems. Kohlberg predetermined that the study of moral reasoning was defined by the concept of justice and reciprocity. As a result he designed his questions to illuminate these issues. Gilligan suspected that the reason that women scored low on the Kohlberg scale was that they viewed these problems from another perspective. She searched for examples of a different point of view in her data and asserted that women value caring and responsibility as opposed to a justice and rights perspective. What critics have pointed out is that in the data men and women both speak in terms illustrative of both points of view. The problem is that neither Kohlberg nor Gilligan is clear in their conclusions that what they were studying was moral development through the lens of a particular value system. As a result there has been an assumption by many that the value system Kohlberg studied is universally held. Gilligan took issue with the notion of a universally held value system and demonstrated that values of justice and reciprocity are not universal. However, by taking the issue into the arena of gender difference she confused the picture and diluted the impact of her original insight.

Another key question my research is designed to answer is "Does changing the context of a dilemma affect the way nurses solve the dilemma?". Much to my surprise my findings indicate that altering the context of the dilemma with the probe questions does not change how a nurse reasons about the dilemma. The nurse may change her decision but not the process for arriving at that decision. Instead the nurses maintained their reasoning styles in the face of contextual change. An example illustrative of this point occurred when a "self-oriented" subject who had adamantly declared that she would not administer the medication because "I would have to lie to the patient and lying is wrong" changed her decision when asked what she would do if the patient were not conscious. She said "I would not hesitate to administer the drug because her life is at stake and one of my major responsibilities is to preserve life." It became clear to me that what I had done was confuse the decision with the decision making. This realization alerted me to the need for looking carefully at the process that the nurse went through when she considered the contextual variables. The nurses remained rooted in their basic orientations but what they did was to sort through a number of perspectives when a contextual change was introduced in order to determine action. It was noted that "selfs" and "others" had less of a repertoire of perspectives than integrators, but that no individual was of a pure orientation. When a contextual change was introduced an individual would sometimes begin to consider other orientation viewpoints but usually discarded these views in favor of one which supported the basic orientation. For example, when a "self" was asked how she would handle the dilemma situation she began by asking "does she (the patient) ask me about the medication?" My answer, "If she did would it make a difference?". Her response, "It's a lie no matter how you look at it." From these observations I conclude that what people do is to sift through a repertoire of perspectives looking for one that will fit the situation at hand. As a result of this insight I began to conceptualize moral development in the shape of a helix, a tornado shaped spiral, with the integrator's cognitive processes moving in an ever-widening circular motion toward greater complexity. The "selfs" and "others" move but only circularly around the helix. The picture of a helix seems to me more useful than either the linear sequential model proposed by Kohlberg and Gilligan or a simple spiral proposed by Kegan. If one envisions the gravitational pulls which shape this helix as the culturally defined values of autonomity versus relatedness then it follows that when one perceives one's self as autonomous, abstract thinking is appropriate, and when one perceives one's-self in relationship, contextual thinking is appropriate. Perception is not simply a process of personal construction. As social beings the context in which we are imbedded influences and facilitates personal perception.

My conceptualization proposes that the cognitive processes understood by some cognitive theorists as regression are examples of the sorting process mentioned above in the day-to-day behavior of individuals as they develop. It is my assumption that in cases where conventional thinking is observed in young adults who had previously been assessed as post-conventional that is not regression that is occurring, but rather an indication of how a person is perceiving the self in relation to others in the context of a particular time and a particular situation. Secondly, my model is focused on an explanation of day-to-day behavior of individuals as opposed to Kegan, Kohlberg or Gilligan's models which focus on a life-long developmental view. We know that individuals look through a kind of filter or lens when making meaning of the world. These lenses are value systems in Kohlberg and Gilligan's and self-other perspectives in my study. It seems to me that when there is clarity and comfort with a particular lens that lens remains. Some lenses are better for focusing depending on how a person perceives the self in relation to the others and where the person is in relation to the societal or contextual gravitational pull along the helix. Because in my conceptualization the gravitational pulls of autonomity and relatedness are considered coequal, movement between the two pulls is not in any way conceived of as regression. In addition, because of the coequality of the pulls one does not necessarily develop from self to other to integrator in a linear, hierarchical way.

The single most important conclusion in my study then is that there is a different way to conceptualize the development of moral reasoning. A change in perspective from a linear sequential model to a helix model is a change from simple to complex, from unidirectional to multidirectional, from dichotomous to dialectical. This different conceptualization can facilitate new insight into how adult development about moral reasoning can be better studied and understood.

A second conclusion of my study is that problems have been created because the literature about moral reasoning, for the purpose of theoretical discussion, separates the process of decision making from the context of the decision actually made. In the field of cognitive psychology there are researchers who have as their goal understanding the cognitive processes in moral judgment. Researchers who have studied this aspect of cognitive development stress the fact they are interested only in studying the thinking process and are not judging the morality of the decision made. Because of this focus there has been a tendency in the literature generated about moral reasoning to disregard the subjects decisions. Disregarding the actual decision made in the cognitive psychology lab is acceptable, but it is not acceptable at the patient's bedside nor in a hospital ethics committee meeting. In conclusion, there is much to learn about how adults cognitively construct information to make moral decisions as well as about how contextual forces that effect moral behavior and moral thinking.

PERSONAL TRANSFORMATION AND PROFESSIONALS' WAYS OF KNOWING

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Abstract: Based upon a study of social workers at midlife, this paper presents the view that the most significant changes in ways of knowing may be those that attend personal transformation.

> *4 1/2 years ago I got sick. And that was the first time I was even conscious of my body, because it failed me. I was totally out of control. It was raw. It was crazy. I was afraid I was going to die.*
>
> Kate, age 35

> *First I notice the rumblings, then I become clear, and then I act on it. That's the big plunge - at the point you go for life. You jump off a diving board and you don't know who you are going to become.*
>
> Laura, age 55

Two social workers, Laura and Kate, describe marker events that became precipitators to their personal transformation. Based on the findings of a recent study of social workers, I will suggest that significant development in professional knowledge and skills, perhaps the *most* significant development, is that which attends personal transformation, i.e., a change in consciousness. To change one's consciousness is to move beyond one's predominant mode of knowing to a higher, more complex, more inclusive mode (Wilber, 1977). In my study, those social workers who underwent a transformation experienced it in all areas of their life, and most noticeably in their professional practice.

Theoretical Framework

A model of psychological development, called "the spectrum of consciousness" (Wilber, 1977) was particularly useful in my study. This model presents what Wilber believes to be the full range of human consciousness - all the possible ways of knowing about self and the world that exist. The various levels of knowing or consciousness are presented as rungs of a ladder. As an individual develops and moves psychologically up the ladder, he or she gains a progressively broader and more encompassing perspective on the world.

Wilber (1977) identifies three ways of knowing across the spectrum of consciousness: empiric (conscious, objective), phenomenological (self-conscious, integrative), and mandalic (super-conscious, unified). According to Wilber, each higher way of knowing arises through the previous way, integrates it and advances beyond it. Thus, phenomenological knowing integrates empiric knowing and advances beyond it, while mandalic knowing integrates both empiric and phenomenological knowing, and advances beyond them encompassing the wider society and ultimately the universe.

A Study of Transformation in Social Workers

A study of social workers was recently done in order to understand how this professional group experienced the transition into midlife and how their experiences were expressed in their work, their personal relationships, and view of self (Karpiak, 1990). Twenty social workers were interviewed. The findings revealed that for five individuals, of the twenty studied, the events of midlife ushered in a process of transformative change.

The findings revealed also that transformation may come about in two rather distinct ways. The first is through those externally generated marker events and experiences whereby "the rug is pulled from underneath us." Kate's transformation (as illustrated in the opening lines of the paper), was precipitated by the sudden, shocking diagnosis of a life-threatening illness. Eve, 42, underwent a marital breakup. Helen, 56, had to face the painful death of her only daugher. The second way of transformation is through those internally generated marker events wherein inner processes and "rumblings" are attended to and where conscious choice is made to move out of an existing structure, be it work, a relationships or a sense of self. David, 45, was moved to a career change when the death of his father "stirred up these feelings of how [his father] had wasted his life." And Laura, 55, (illustrated in the opening of the paper) paid attention to her "rumblings" and made a conscious choice to change her life. In this situation, a change in one area of life seems to "enslave" the other areas, thus promoting a change in them as well. In both ways of transformative change the necessary factors appear to be the following: a) a challenge, b) self-reflection, and c) integration.

Transformative change expressed itself in these five individuals as a significant shift in their sense of self and the world. This shift was demonstrated in several areas of their life and work. These areas will be expanded upon in the following paragraphs.

Transformation of Consciousness and Knowing

There was evidence in the study that a change in consciousness and way of knowing had occurred with the transformative group. I speculated that several individuals moved from an empiric (conceptual, objective, conscious) way of knowing to a phenomenological (personal, integrative, self-conscious) way of knowing. These individuals spoke about themselves as more personally integrated now than before. To illustrate, Eve expressed her sense that the "central core" of her was now more accessible to her. Now she was "much more happy to be contained and introspective and reflective." Laura, on the other hand, spoke about moving from being an "assertive, hard-nosed achiever" to becoming "more spiritual and meditative." And Kate, who had faced the possibility of death, noted the demise of an earlier knowing: "Your illusions are put before you and you can see right through them." Later, in caring for herself, she rounded out her reliance on conventional therapies with a new openness to non-conventional means - "laying on of the hands, things I would have never thought to do." Having come through the experience, she described her movement away from conceptual knowing:

> *I'm just beginning to be aware, to experience the world in other ways than through my brain. I seem to trust more that somehow I will be looked after, that somehow things will be ok.*

Experiencing and Knowing about Change

These individuals demonstrated that they drew abundantly on their experience with change in the work they did with others. Indeed, it was intriguing to discover a relationship between how they had experienced change and what they now knew about it. To illustrate, Helen, who lost her daughter, spoke of the need to go through the various stages of grieving: Laura, who initiated change, spoke of change as taking that leap and choosing life; while Kate, who faced the shock of illness, spoke of making changes as being a result of being "pushed against the wall." The specific way in which each depicted change was a unique reflection of his or her own process of change.

It was noteworthy that in contrast to others in the study, this group of transformers viewed change as something positive, natural to life itself - "life is change" - Eve said. And Helen, who had "gone through the despair," spoke compassionately of those undergoing change:

> *Change is so difficult, its painful, and its hard to do alone. Most people are not going to be able to do it, probably; its scary; and amazingly, some of the most damaged people are able to do it, because that inner thrust toward growth is so strong.*

Transformers in Professional Practice

These five individuals, whom I would later come to call the transformers, were recognized early in the study as being a special group by virtue of the quality of their work and their reflective attitude to the profession. For instance, their practice was not just a job, rather, it was a vocation, an expression in the outer world of who they were, with no discernible boundary between personal self and professional self. Laura, who left teaching to begin a private practice, described how she drew her total self into her work, "I want to get in there. I'm not afraid of pain and of anger and tears - the guts part of life - nor am I afraid of the spiritual part of life." And Kate reveals her appreciation of the complexity of social work:

> *I think it is a profession that humbles you immensely in terms of outcome. It's not for people who are outcome oriented. You have to have an intrinsic sense*

> *about your work...You have to be illogical; if you do A, you can't expect B. But still you have to be goal directed.*

Another quality revealed by these individuals was the high degree of respect they conveyed toward those they served. They rarely referred to the individuals as "clients," rather, as "the people I work with," or "people who receive services." Eve exemplifed this care and respect:

> *People teach me a lot in this room. I am very respectful of them and pay close attention, because it's not easy to come and talk to someone about your pain and inadequacies. I'm very humbled by that.*

And finally, these five individuals perceived themselves to be highly capable at work, conveying a strong sense of confidence and trust in their own competency. Significantly, in contrast to other individuals in the study, there was no suggestion of experiencing either boredom or burnout. Their attitude embodied a developmental perspective that appeared to save them from this.

Continuing Learning and Continuing "Becoming"

The transformers gave thought to their continuing education, but their interests lay largely in self-knowledge, personal and spiritual growth, and improving the quality of their life and that of others. For them, continuing learning was intimately tied to how they were developing and who they were becoming. Kate expressed her learning needs to be "in the areas of self, self-expression, being true to self." David found workshops "less satisfying now," and added, "unless it's a very esoteric subject, it's repetitious." Similarly, Laura's interest was in those workshops that focused on mind/body integration. She was looking for cross-disciplinary, spiritually oriented workshops, "with a lot of dance and body movement," adding, "I find boring, lacking, those courses that only relate to my mind."

Both Laura, 55, and Helen, 56, spoke about their desire for continuing their education through writing. Through writing, they could share their experiences with others. These women confirmed Jung's (1954) comment about transformation: those who undergo it return to serve their community in new ways.

Jung (1954) and Wilber (1977) remind us that transformation to a new level does not ensure stability; only the possibility of further transformation and psychological development. These individuals were unique in the study in that they viewed life as an ongoing process of "becoming." Their language was filled with references to it. Kate expressed in her language a difference in her sense of self before and after her illness. The words, "I am *more*...," "I am *still*...," and I am *becoming*" came up over and over again. She said, "I am only *beginning* to separate out, *beginning* to have my own dream. I'm so new at that *yet*." And Eve sums up: "I see myself in definition. I'm interested in knowing who the woman beyond her forties will be, and how she is evolving."

Summary

This study offered a fresh perspective on personal transformation and its potential for bringing about change in individuals' ways of knowing about self, profession and the world. The transformers' view of their lives was that the extremely tense moments promoted growth that they felt had not only given meaning to that moment but to their whole life. They were moved to regard that critical and tense time as "the worst of times and the best."

Implications for Continuing Professional Education

Continuing professional education has been and continues to be directed to the development of knowledge and skills for improving practice; little attention has been given to the further possibility of development of the professional to higher levels of consciousness (McWhinney, 1990). The major implication of my study is that adult educators need to become awake to the possibilities of their own personal transformation and that of the professionals they serve. Hopefully, continuing education may then begin to extend its focus to that broader perspective that involves transformation of consciousness.

Secondly, the study pointed to the importance of novel events, such as death, illness and divorce, as precipitators of personal transformation. Rather than viewing novel events as negative and problematic, adult educators need to see such novel events as holding real potential to shape individuals' lives in unexpected, growth promoting ways. Whereas the events themselves cannot be controlled, education can facilitate the way these events are processed and worked through.

And finally, as they come to appreciate the transformative potential of novel events, educators may begin to introduce such events to the educational process. Novel events (new experiences, new information and new perspectives), can become precipitators of change. As learners engage in the processes of challenge, reflection and integration, they may move to higher levels of consciousness and thereby new ways of knowing.

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THE IMPACT OF ORGANIZATIONAL ENVIRONMENT ON PROFESSIONALS' INFORMAL LEARNING

Jane Power Kilcoyne
Marie Volpe

This paper will illustrate some elements of organizational environment which act as major inhibitors of informal learning for two groups of professionals within a large international corporation. Two independent qualitative studies were conducted during the same period and identified the learning needs and strategies of HR professionals and research scientists.

In keeping with the underlying premise of Lewin's Field Theory that behavior is a function of the interaction between person and his/her environment, these studies examined the effects of the organizational environment on the ways in which both groups of professionals learn. What the professionals select to learn and how they go about learning it are often the results of the way in which they perceive the path of organizational as well as personal success, and the manner in which they respond both to that path and the change to it along the way.

Although the learning challenges of both research scientists and HR professionals are distinct, the extent to which both groups are able to achieve learning are influenced in similar ways by the organizational environment. At the same time, there is some intra-discipline commonality in learning goals and methods brought into the corporation by the professionals. These goals and methods become tempered, however, or even abandoned, in response to the culture of the workplace.

The learning imperative for HR professionals was perceived by them in terms of mastering the effects of change a) on their own work and behavior, and b) as change affects their performance in their role as representatives of management and advocates of employees.

For HR professionals, learning in times of organizational upheaval tends to focus more on survival or power sources than on gaining greater technical HR skills. Thus, rather than learn the best techniques of presenting a new project or product to management, the professional - in times of organizational stress - might focus on who in management has the real power, who can get the job done, and how he/she might seize the opportunity to selectively present to those few.

The learning imperative for research scientists was described by them in terms of the need to be at the leading edge of science and technology. This was in order to: a) be faithful to their discipline, and b) at the same time, contribute to the achievement of the organization's goals and objectives.

In both studies, informal interaction with colleagues was identified as a preferred method of learning. The organizational changes which occurred created a totally different learning climate than had previously existed and disrupted opportunities for both groups of professionals to learn through interactions with others.

This predisposition towards collegial dialog is illustrated by Leslie Smedley in his 1987 study of American Chemical Society members, "Chemists as Learners." He states that chemists' preferred method of learning is through dialog with colleagues. These conversations are preferred above formal lectures, seminars, sabbaticals, etc. Yet, study findings reveal corporate reorganization physically dislocates chemists from a centralized scientific community. It places them within the business framework of product lines, far from a critical mass of R&D scientists (in order to "keep them close to the business.") This preferred method of learning, the collegial dialog, thus becomes dramatically altered.

Similarly, the common pre-organizational change practice for HR professionals, of learning informally through interactions with others, was impeded by reorganization and downsizing. HR participants described that while they still attempted to learn through interactions with others to the extent they could, they also indicated they focused more on independent ways of learning informally. Consistent with their individual learning styles, participants indicated they read a lot; others said they were more reflective; others described learning by doing and still others described applying prior experiences to issues in the post-change environment.

The following impediments in the organizational environment illustrate the conflicts inherent in fulfilling the learning imperatives of both the HR and research professionals.

From the perspective of the HR professionals, the changes in the organizational environment resulted in:

- The breakdown of informal networks

  Pre-change, informal networking with colleagues and peers in one's own work group and across organizational affiliates was a common practice described by most participants in this study. However, participants described the post-change environment as one in which there was far less trust in the organization. This was evidenced by those who perceived the environment as more political; they closed ranks and were less sharing of information. Participants who perceived the social contract they had with the company had been broken, no longer trusted the company and they, too, closed ranks and shared their disappointment with select others who held a similar view. As a consequence, those who primarily focused on work, who did not feel betrayed by the company nor perceive it as more political, had fewer opportunities to learn through informal networks.

- The loss of formal networks

  Pre-change, management established formal networks of experts and specialists for discrete HR activities, i.e., compensation, benefits, labor relations, training and development, etc. Members of these formal networks were highly regarded for the knowledge and skills they had developed over time. When many of these employees left the company through reorganization and downsizing, loss of their expertise caused a "brain drain" in the organization. The loss of the formal networks also hampered the ability of those professionals who remained to get expert advice and counsel. There was more "reinventing the wheel" and less opportunity to learn from the experience and expertise of others.

- The dislocation of personnel

  Significant numbers of people were affected by the organizational changes. Many people were either reassigned and relocated to other affiliated organizations, or separated from the company. Therefore, in post-change, the dislocation of many former colleagues, peers, supervisors, managers and support staff, as well as those who were held as role models and served as mentors affected the ability of HR professionals to learn through interactions with others.

From the perspective of researchers, dislocation of personnel also became a major factor impeding their ability to learn informally through others. Although organizational change was not the only factor analyzed in the study and reasons behind reorganization in technology were different from those affecting HR professionals, R&D technologists, nonetheless, suffered consequence with some similarities to those described above.

o Through the reorganization, technology was divided from its once common unit and placed among several business groups. Scientists no longer worked together in a common division for various product lines. Instead, they were placed by appropriate technical speciality under new businesses. This separation of scientists resulted in the destruction of what they had perceived as their scientific community. Since scientists' preferred way of learning is through discussion with colleagues, (Smedley, 1987) and since colleagues now worked for different groups within the organization, their ability to learn from one another in this informal manner was seriously impaired. In addition to being separated by work, they were also relocated by organization. They had lost the opportunities for hallway and coffee conversations which had, in the past, led to problem posing and new perspectives.

- Non-scientist managers

The traditional route to technology management in most organizations is through R&D or technology. This means that the scientist or engineer progresses through a ladder system which allows him/her to eventually arrive at a position which manages science and the resources for that science. In the corporation studied, however, the traditional route to management by-passes the bench scientist in favor of the non-research engineer with a plant supervisory background. The resultant laboratory culture for research and development then becomes almost exclusively development (improvement of existing technology) rather than research (invention of new technology.) This occurs because development is what the manager knows and will support. Libraries, conferences, opportunities for peer review then become used in light of projects which will make incremental improvements in current products or processes rather than for broader based scientific research. Participants reveal that their drive to learn becomes diverted to those learning activities which support the desires of their non-scientist management.

- Short time-frame for work

There is a tension between profitability and research. When science is strong, it develops a technology. This commercialization results in greater profit for the corporation. The timeframe for this process is usually a minimum of five to ten years if the research goes smoothly, remembering that for every success there are many failures. When it is profitable in the short-term to make existing technology better, faster, or cheaper, there is little drive to spend the time and resources on developing new technology. The effect of short-term management on the learning goals of scientists is to direct their attention to that learning which is highly contributory to the immediate needs of current short-term projects. Yet it may be that the scientist most needs a broadening of knowledge base rather than specific training in order to pose his/her scientific problem.

- Constrained rewards

  There is a dual ladder system in the organization which supposedly results in equitable rewards for both bench scientists and those in the management system. Throughout nearly 200 interviews, it became clear that the research ladder had no top rungs. The perception among researchers is that there is no corporate reward for good science. "I do it for my own sense of pride, the company gives me nothing," is a comment typical of most conversations. In such an environment, learning is frequently focused on the organization, on how to survive, and how to move out of technology towards promotability. In rare cases, learning is focused on how to change the system. It is certainly not focused on new science.

- Lack of understanding by management of contribution of research to bottom line.

  "The business considers research an expense as opposed to an investment. Technologists are looked upon as unfortunate spenders of money. Whereas, marketing, or business types bring in the money." Although new technology is a foundation for bottom line, motivation for managers to opt for quick returns to the investors overwhelms the perception that long term research is a valid bottom line contributor. The view that researchers spend money creates an environment of mistrust between business and research. As such, a mistrustful environment has a negative impact on researchers' achievement of their continuing learning objectives.

The examples of environmental inhibitors to professionals' learning given in this paper have been culled from much larger studies completed by each researcher/presenter. Each of the studies examines in-depth the relationship between the organizational environment and informally learning. Organizational facilitators, as well as additional constraints are examined in those studies. Relationships among professionals and between professionals and management within the company are reviewed. Both studies are currently unpublished.

Group Learning among Professionals: The Brewster Company Case Study

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Abstract: The focus of this study is group learning. In an initial case study we identified four phases of group learning: contained, collected, constructed, and continuous. We tested and refined that model in a second case study, described here. We illustrate three of the four phases found in the study, and discuss implications for technical professionals who work in groups.

Introduction

In a previous study, we developed a model of *group* learning derived from empirical experience and the literature. We identified, among other things, four phases of group learning: contained, collected, constructed, and continuous. Groups can move back and forth among these phases, but can also have a modal way of operating. The following learning processes go on in each phase in a different way:

- Framing or the way in which individuals or groups initially perceive an issue, situation, person, or object based on past understanding and present input;
- Reframing or the way in which people alter, add to, or transform their understanding of a situation, which frequently involves the challenging of previous understandings;
- Integrating of perspectives, gleaned through interaction with others;
- Experimenting, whether that be for hypothesis testing, discovery, or move-testing;
- Crossing boundaries, that is, the transfer or acceptance of knowledge, insights, language, or information between two or more parties.

The above processes represent the interaction between modes of thinking and lines of action. They are not solely cognitive in nature because they often involve strong feelings and the will. Table 1 shows how the processes and outcomes differ by learning phase, based on the first case study. In this study we refine the model and illustrate three of the four phases found at Brewster.

The Case Studies

The Brewster Company, described below, is the second of two case studies. The first case study was a large petrochemical company. Both companies were undergoing significant organizational changes that involved teamwork. This was a qualitative field study involving individual and focus-group interviews, observation, document analysis, the use of several data inventory forms, and feedback sessions with representative employees. The sample included 28 employees in the first case representing a diagonal, cross-functional slice of the organization; and 23 of 25 members of an intact systems work group in this second case. There is extensive literature on teams that focuses on factors such as group composition, interaction patterns, time on task, stages, and dynamics.* We did not look for these factors in this study. Instead, we sought to understand how groups learn, what that learning looks like and how it might be similar to or different from the learning of individuals, whether and how learning gets shared and embedded in the organization, and what conditions help or hinder group learning.

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* Due to space considerations, references are not specified here or elsewhere in the text, nor listed at the end of this article. References are available on request from Victoria Marsick, Teachers College - 112, Columbia University, New York, New York 10027.

Table 1: Differences in Learning Processes by Phase

PHASE	LEARNING PROCESSES				OUTCOMES
	Framing / Reframing	Integrating Perspectives	Experimenting	Crossing Boundaries	
Contained Learning	Individuals frame situation for self	Views differ and are kept to oneself	Preference for known routines	Looked at, but not crossed	Gains, if any, by members on their own
Collected Learning	Individual definitions of situation are aggregated & may be shared but not changed	Different views exchanged but only partially integrated	Individuals & sub-groups experiment, but learning not shared by entire group	Boundaries may be crossed to bring information into the group	Individuals learn how to work in clusters & may learn new skills
Constructed Learning	Individuals & group challenge & reframe problem, purpose, language, roles	Collective struggle to listen, hear, accept, & integrate viewpoints to construct shared view	Team also experiments together with new behaviors and mutually constructs understanding based on this	Two-way interaction within the group to seek and share ideas, information, influence	Individuals and group learn team skills, e.g., communications, critical and strategic thinking
Continuous Learning	Continuous reframing by individuals, & group	Habit of seeking & valuing diversity, in & out of the group, to create broad perspective	Individuals & team experiment outside the group to extend their learning	Boundaries crossed frequently inside & outside group to share results	Individuals and group learn to influence, collaborate outside the group

Brewster Company

The Brewster Company was founded 25 years ago by two men who currently serve as Chairman and President, respectively. The company takes a commodity raw material and converts it into a number of consumer products that are sold in retail markets; it also processes and sells the raw material in several forms to other industries. At the time of the research, Brewster, through acquisitions and expansion, had grown to encompass nearly 175 plants and offices in North America and Europe with a total of 50,000 employees. Sales had increased from approximately $5 million in its first year of operation to $6 billion. Brewster Company expanded rapidly, and then found that growth slowed, which spurred plans to address the new situation. Around this time, Norman arrived as a new director of the Information Technology Department, the parent department of the group that is the focus of this study. Marie, the head of the group studied, reported to Norman. Norman fostered new initiatives, such as total quality initiatives, matrix management, and a customer focus.

A series of discussions took place between Marie and her staff that eventually led to their adoption of the self-managed team concept Marie's decision to let her employees work in this way was considered somewhat radical in light of the larger reorganization. The creation of the following self-managed teams took three months of extensive discussions:

- logistics, responsible for forecasting systems, master scheduling, and implementation of PC and local area networking capabilities for logistics personnel;
- production systems, responsible for manufacturing systems related to the products;
- distributed systems, responsible for the general ledger and other distributed systems.

Members of each team also served on cross-functional teams dealing with administration, planning and coordination, user liaison, training and education, quality, and technical coordination. At the time of the study, the cross-functional work teams had not really begun to work together except for planning and coordination. We next look at the way in which each of these three teams illustrates the concepts of contained, collected, and constructed learning. We did not see many examples of continuous learning in the data collected in this study.

Production Systems: Contained Learning

Group members initially recognized the rich experience each member brought to the group because of their different technological and work experience backgrounds. The group laid projects out on the table, discussed the work that each person was doing, and provided input as it seemed relevant. However, the group never shared a joint purpose and seldom worked interactively on projects. Members worked, for the most part, on their own with their respective mill clients, and remained individually responsible for project outcomes. Some members reported they tried unsuccessfully to work with others, as when John took special pains to keep Stephen up to date on conversations with a vendor with whom they were both working. When John later found that Stephen met the vendor independently and never informed him before or after the meeting, John stopped trying to collaborate. Other members reported being afraid to ask for assistance from the group because they were expected as professionals to already know their business. This group did not have a lot of prior experience in group process and team work. While a hierarchy did not *officially* exist, it was perceived by some. One relatively senior manager held back initially, but later began to exert more influence because he saw how poorly the group functioned as a team. Members only came to meetings when they had something to report, and frequently left when they felt that other issues being discussed were not directly relevant to their work. One member admitted that it had come to a choice point "between spending more time . . . in trying to keep the group together or just getting on with what we could achieve. . . . I think we chose to do the latter."

The learning of this team was contained. Referring to Table 1, we can see that team members, for the most part, framed their understanding of projects assigned to them by relying on their special expertise. They brought their respective views to the table when asked, but did not voluntarily share information with others, as John learned so painfully. They often did not choose to hear the views of others if not directly related to their own work. Members might experiment professionally and individually with their own work, but did not experiment together through self-managed teams. They relied on accustomed ways of dealing with projects and one another. This led them to cross boundaries at times, but not with ease, as we can see in the case of members who were afraid to ask other team members for help on their projects.

Logistics Team: Collected Learning

The logistics group worked together prior to the reorganization on a production scheduling system that was meant to change working relationships between the mills and headquarters. For two and a half years, a small group worked with outside consultants on the research phase of this project. The system was to be built on a mainframe, but when it became clear that would be too expensive, a decision was made to reconceptualize the system for a PC. Rodney warned the group unsuccessfully early on that a software product destined for a critical role in the system design was inadequate for the task. They did not listen. After about a year, a PC prototype was developed that the users liked. However, as Rodney had prophesied, the team ran into difficulties when they tried to use real data. Marie intervened by asking two people — Stephen, a technical specialist, and Barbara, a trusted assistant — to find out why the prototype did not work. They "set up a war room" and spent two weeks together in a conference room analyzing the problem with two of the people who had designed the prototype. They informed Marie that, as Rodney had warned, the software selected was the problem. Shortly after this, Marie arranged a meeting with the users that was eventually called Black Wednesday. The users vented their frustration about the product and the logistics group. The group did not feel adequately defended by Marie. The team felt stigmatized by the users and Marie as incompetent for events that were not always under their control because the project had changed in its nature, group composition, and focus over time. The logistics team continued to meet with the users after Black Wednesday, and made some progress on a new prototype. In the midst of this, a spontaneous discussion erupted at one meeting on the pluses and minuses of working on the logistics team. The planned agenda had been on a different topic; Marie was scheduled to come to the group at the end of their meeting. Instead, they reported their newly-constructed insights. Marie began to realize that the users were a key part of the problem because they did not have a good grasp of their needs. Marie put the logistics project on hold until the users did a Business Area Analysis.

The learning of the logistics team, for the most part, is collected, although at times they move toward mutually constructed learning. Referring to Table 1, we see blocks to reframing: the group is initially stuck in its understanding of the prototype, such that they are unwilling to listen to Rodney's professional opinion about the flawed software. Marie intervenes by substituting a new frame on the problem, that is, why doesn't the prototype work? The group comes close to constructed learning in its plus-and-minus meeting by reframing the problem away from their perceived incompetence toward the lack of clarity of the users about their needs. Earlier, views were shared, but not always listened to, as was the case of Rodney and, for a time, the group itself vis-a-vis Marie. A subgroup did experiment with different ways of understanding the problem of the prototype when they were holed up in the war room, but their learning was not that of the whole team, as was also the case when other subgroups experimented with aspects of the new system. Finally, when the team crossed boundaries, they primarily brought information in from the users, but two-way dialogue across such boundaries was frustrated, especially after the demoralization of Black Wednesday. Marie became the go-between for boundary crossing.

Distributed Systems: Constructed Learning

This group was comprised primarily of younger, less experienced professionals new to the company — factors that reportedly helped them learn more easily to work as a team. Early in their history, a deadline crisis emerged around a software project that had been "put back and forth on the back burner" for about a year a half. A user saw a need for this software when Leroy demonstrated it, and needed it in a month's time. Leroy was behind schedule with its development. Three of the five team members whose expertise was in software helped Leroy meet this deadline. As they did so, an internal crisis emerged around Leroy's working style. Evidently, even before the external crisis occurred, Leroy continually missed deadlines, and was tardy or absent from work without giving proper notice. This left team members scrambling to fill in for Leroy so that promises were kept. Leroy, characterized as more creative than analytic, also made changes without fully retesting for the impact on other aspects of the entire system. During the crisis, discussion of these concerns was limited by time concerns. Afterwards, the group took an opportunity to give him feedback during the second segment of a two-part Social Skills Training session. They did so, in part, because they heard that management was going to deal with this issue unilaterally, and they felt that as a self-managed team, they should do so instead. The feedback was well-presented and well-received. The team grew together, although they felt somewhat at sea without an internal or external crisis to resolve, and had to rethink their purpose. They used one another as resources in team meetings and on projects, and took joint responsibility for projects. They saw themselves as a successful self-managed team.

The Distributed Systems team illustrates constructed learning. The crises caused members to reframe their roles and purpose, which they had to again reframe after these crises. They challenged management's authority to deal with performance problems outside the team context, and as such, reframed their own roles. Besides technical experimentation to finish the project, they experimented socially when the team gave difficult feedback to Leroy. They became increasingly open to new perspectives as they worked on this project with Leroy, and when they addressed new challenges, for example, helping one another negotiate mutual responsibilities with users. Group members sought ways to expand their own technical expertise, and in doing so, were not afraid to cross boundaries within and outside the group.

Discussion

This study shows how the norms of a technical professional culture can influence group learning. The idea of teamwork has enjoyed a rebirth recently in the United States, in large part because of the quality movement, so successful in Japan, that relies upon team-initiated problem solving. There are many varieties of teamwork; perhaps the most difficult to implement is the one in this study, self-managed teams, because of the high degree of group autonomy implied. The people described in this case study are professionals who are members of a highly technical computer-based systems group. As such, they may be resistant to group work for many reasons. First, professionals possess characteristics that conflict with group decision making: 1) a depth of specialized knowledge less likely to be shared by many, 2) autonomy and independent judgment, and 3) commitment to a field of knowledge that can be personally more important than company rewards and approval. As a result, professionals often prefer independently-acquired truth to interdependently-derived compromise. Second, the professionals in this study are in data processing. The systems environment is characterized by many different technical bodies of knowledge. Each person is highly trained in his or her own field of expertise. Systems work is often done through teams, but each team member functions as a repository for specialized knowledge that is then collected, coordinated, and applied to different aspects of hardware and/or software development. At the end of the project, individual products are compiled. So while systems people are organized into groups called teams, they frequently work independently.

The Experts: Varieties of Professionalism

By Samuel Mitchell

Abstract

There is more than a simple choice between professionalization and social reform. Professionalism can be a social movement. In adult education both professionalism and social change involve promotion and advocacy. Professionalism can provide criticisms of knowledge, visions of alternatives and a focus for dialogue.

Professionalism in adult education is believed to be increased as numbers grow or as items on a list are covered. In a recent account, professionals in the field are seen as rising through more training programs and publications. The professional elite then becomes more dominant in the expanding service (Selman and Dampier, 1991: 265). In a more theoretical discussion, professionalism is equated with a long list that includes an understanding of functions, applicable knowledge and a hierarchy within the profession and between professions (Houle, 1981:34-75).

Both of these approaches are aware of criticisms that have been made of the professional model but neither author discusses alternative models of professions. Professionals are admitted to be meeting client needs with a market orientation (Selman and Dampier, 1991:273). Client revolts are acknowledged but such revolts can be controlled by "dedicated efforts to maintain quality" (Houle, 1981:302). Even action researchers are notable for their tendency to support conventional professionalism (Carr and Kemmis, 1986:223).

These different adult educators ignore many newer approaches to professionalism. The view of the professional as a group mobility project may be echoed in the views of social reformers that believe professionals will create a demand for their services (Larson, 1977). There is no view in continuing education of professionalism being recognized by authorities as expert witnesses (Friedson, 1986) or knowledge requiring acceptance in order to insure legitimacy (Code, 1991). Nor is there any apparent understanding of the even newer argument that professions survive through abstracting knowledge that can be applied to new conditions (Abbott, 1988). The latter argument should be considered because it strikes at the belief that adult education exists as one field. Through ecological and symbolic competition, different groups are always seen to be competing and replacing rivals in the same jurisdiction.

The tendency to ignore criticisms of the institutional structure fits with other tendencies of adult educators to ignore criticisms and to see conventional professionalism as their one hope to avoid a marginal status (Selman and Dampier, 1991:247 and 296). One classic sociological study, that is still ignored in adult education reviews, shows that adult educators lack the autonomy to be professional because of their preoccupational with the promotion and recruiting of students (Clark, 1958). A more recent study in Canada, that is also neglected, argues that continuing educations lacks a knowledge base that would justify mandatory attendance for professionals (Swan, 1979). A much earlier study argues that any field that is dependent upon promotional activities can neither be professionalized nor bureaucratized (Caplow, 1964).

Adult educators have not accepted the challenges that these studies have contained for their entrepreneurial efforts and their search for professionalism. There is some tendency to deal with any recognized contradictions by alternating between professionalism and social reform (Selman and Dampier, 1991:287). Fields like public health or special education have shown that professionals and laymen can work together towards idealistic goals. Not every profession has to have a pyramid with volunteers at the bottom and with professionals at the top who alone understand their true tasks (Houle, 1981:35). The typical research studies have reflected the bias that led some superior beings to believe that they should learn how to get subordinate people to participate. The limitations of the participation studies have been shown for over thirty years (Brunner, Wilder, Kirchner, and Newberry, 1959). The major change in direction of such studies has been the individualistic direction that shows the separate projects that adults follow (Selman and Dampier, 1991:274-276). The cognitive approach to professionalism would question whether such studies can be applied to new conditions (Abbott, 1988).

However, the links between professionals and laymen could be connected by a focus upon realistic studies in which they interact. The British study that show professionals and people developing a program through interaction and use of a wishing well is in the right direction (Fordham, Poulton and Randle, 1979). Studies of innovations show that professional development occurs through improving staff meetings or informal encounters such as between classes rather than through specialized training (McLaughlin and March, 1979 and Rosenholtz, 1989). Specialized training should be provided by people who know the local situation extremely well rather than by the professional consultant (Loucks, Cox, Miles, Huberman and Eisman, 1982).

It is individuals who can combine the insiders and outsiders roles or insiders working together with outsiders that innovations tends to develop that will lead to a continuing ability to develop new practices (Mitchell, 1990). External consultants can not see the specifics of local situations; they need to see the broad aims of the innovation (Loucks, Cox, Miles, Huberman and Eisman, 1982:73). External consultants promote organizational changes and teach the specifics of innovations to internal consultants. Similarly, external consultants in foreign countries work best as adaptable generalists who use their base knowledge in many different situations (Fry and Thurber, 1989).

Adult educators might then begin to examine situations where they can combine lay and professionals, insiders and outsiders. The death of the gifted amateur may have been announced prematurely (Selman and Dampier, 1991:254). Examples of outstanding programs involve just such combinations rather than experts alone (Selman and Dampier, 1991:124-150). Professionals in these situations can be sensitive and politically astute.

Varied professionals will probably develop when ideologies about professionalism are more complicated. Seeking for the one right answer is like seeking for the one way to advance towards professionalism. A better strategy would be to recognize that alternative conceptions of professionals are needed. The conventional view fits with a functional theory whereby clients obtain the service of experts and grant experts status in exchange. Like other functional arguments, this one is conservative and does not examine the value of the service that is provided (Carr and Kemmis, 1986).

Other forms of professionalism are more compatible with the promotional nature of the field and the political crosspressure to which its practioners are exposed.

Professionalism can be grounded on the subjective of the practioners in a reflective approach (Schon, 1987). However, beyond the ambiguities and value choice of the individuals, group action suggests a considerations of the interests and biases of all players in the game. The imperialist model can suggest why some professions are more dominant than others and why one country's adult educators are more dominant than those in another country (Mitchell, 1990:80). The appreciative account of the American Carnegie Foundation in establishing the structure of Canadian professional adult education stands in contrast to the imperial theory (Selman and Dampier, 1991:122). The appreciative view of the Carnegie Foundation also stands in opposition to studies of the educational and foreign policy implications of the same foundation that show it reinforced conservativism and racism (Berman, 1983 and 1984).

None of the alternative conceptions of professionalism are meant to be exclusive. Being aware of the functional view of experts being limited or individualistic conceptions of adult education being a paradox for programming in a political context is to make room for a critical view of the professionals in this field. Each perspective can yield a different vision of future roles. One need only to avoid half-truths and bandwagons to see and hear more sensitive professionals who are helping to create a better society.

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CRITICAL THINKING SKILLS IN CONTINUING EDUCATION FOR THE HEALTH PROFESSIONS: FROM THEORY TO APPLICATION?

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Abstract: **This paper raises the question: What specific steps can be taken to promote and cultivate reflective, critical thinking in the postgraduate education for the health professions? The objective is to identify issues and controversies, encourage and promote debate based upon paradigns developed by Schon (1987), Brookfield (1987) and other theorists in adult education.**

The Purpose

Theories of adult education have and should continue to have a substantial impact upon those who plan, design, implement and evaluate continuing education in the health professions. But, there are gaps between theory and practice. The success or failure in applying adult education theory to practice is dependent upon the ability to bridge the gap between paradigns and practitioners in the actual educational process itself to provide the tools not only to rethink but to reconstruct traditional educational models. This paper asks a simple straight-forward question: What specific steps can be taken to promote and cultivate reflective, critical thinking among health professionals through continuing education (Schon, 1987 and Brookfield, 1987). The assumption is that strategies of critical thinking provide a viable change model for 1) the health care delivery system 2) its practitioner and 3) leaders in the field of continuing education in the health professions. The objective is to raise issues, identify controversies and encourage and promote debate based upon the paradigns developed by Schon, Brookfield and others.

The Need

The current status of the health care delivery system in the United States can, at best, be described as in a state of crisis. Externally, the system has and will continue to be engrossed in a complex and often hostile environment of consumer criticism and activism, exposes of excess, governmental and non-governmental regulatory influence, increasing scrutiny of professional competence and constantly changing images and expectations of society. Internally, there are professional concerns, including pressures for reform, pressure for greater specialization, an erosion of professional dominance and changing contexts of professional practice. These external and internal forces should have had a profound effect upon the education, training and continuing education of the vast array of health professionals that make up that system. There is little evidence to support any major shifts to accommodate these forces. In a multi-billion dollar a year enterprise, a cynical observer will find little more than a tallying of course registrants, number of credits, number of hours of course content and a fair share of the market. This is the reward system. It is also a system in need of reform.

How will continuing education leaders in the health professions respond to the pressures for reform of the system, reform of the professions which make up that system and the very real needs of the individual practitioner? If one embraces the concept of a reflective, critically thinking practitioner, what steps or strategies does one take to promote, motivate, encourage, cultivate, teach and to learn the process? What are the alternative futures within this paradign and what can serve as a guide to strategies and decisions in the interim? How does one impart clarity to the paradign of the reflective, critically thinking practitioner and promote commitment to it? Therein is the need.

The Paradigm Defines the Issues

It is appropriate to use two activities central to critical thinking proposed by Brookfield (1987) to identify some of the issues in continuing education for the health professions. That is, as a first step, there is a need to identify and challenge major assumptions in the continuing education of the health professional and to explore and to imagine alternatives. These are listed in Table 1. The listing is not meant to be complete. It represents the consensus of one small group of continuing education professional who identified issues at a major academic health sciences center. The professional areas involved were medicine, dentistry, allied health professional education, pharmacy, nursing and health care administration. The categories of assumptions, the traditional assumptions, the challenging or alternative assumptions and implications for the learners and continuing education leaders are not new issues. However, they are issues which, in many ways, have become dilemmas in continuing professional education.

Continuing education in the health professions may well be the single most accountable occupational/professional groups in the workplace. In addition, there are multiple levels of accountability including professional associations, certification and licensure bodies, peer review, multiple quality assurance monitoring mechanisms, institutional and non-institutional monitoring systems. Continuing education professionals are most sensitive to these accountability issues as well as the practitioners within each profession. Reform is potentially more likely in postgraduate continuing education than in the professional training at the undergraduate or graduate level.

There are certain characteristics of the health professions which need to be identified. First, most of the health professions are based upon an apprenticeship model. Thus mentoring, modeling and coaching represent major learning strategies. Second, the primary focus of these professions is examining patients and illness/wellness issues based upon a broad continuum of outcome possibilities with multiple alternative states (e.g., acute/chronic, functional status, morbidity/major morbidity, etc.). Thus, both patient and practitioner are more than likely able to visualize many alternative outcomes and future possibilities representing multiple scenarios. Third, the health professions emphasis on peer interaction and association make them an easy target audience for relationship building, consensus building and homogenous grouping. These three characteristic are very important in the reflective, critical thinking model which may suggest some congruence with the Schon-Brookfield paradigm.

The remainder of this paper is focused on the information presented in Table I and the ten (10) categories of assumptions in the left-hand column. It is important that the reader keep the following question in mind in critiqueing the material presented: Do the issues presented represent ongoing, seemingly unresolvable controversies in the field of continuing education for the health professions? It may well be the case that the Jeffersonian ploy, "We hold these truths to be self-evident..." is at work but is minimally operationalized by the practitioner or leader in the field. Certainly the resolution of these controversies is a developmental process spanning phases and stages of the learner. One proposal growing out of this paper is that critical thinking skills form a "core curriculum" for developing a reflective practitioner. The implications are immediately apparent and laudable yet defy implementation. It is believed that the key to the process will be a new self-directed needs assessment with other program planning steps pivoting on the outcome of that assessment. In Table I, categories 1, 2, 3 and 9 address this issue of a "core curriculum from slightly different perspectives as the learning process, the learner and outcome measures. The advantage of a "core curriculum" for critical thinking skills is its universal applicability to the physician, nurse, pharmacist, dentist, physical therapist, thereby generating a truly team approach to the patient, the disease, the diagnosis and the practice management.

The most critical issue in continuing education for the health professions is that of measuring and assessing change in practice behavior. Does the continuing education of the nurse, physician, dentist, pharmacist, etc., make a difference? What impact does an hour program, two-day program, one-week program have on professional competence, expertise and the change process in the adoption of new practice behaviors? These issues represent Categories 4, 5 and 6 in Table I. The definition of professional expertise is a major issue. Patients expect their nurse or dentist to be knowledgeable of pathophysiological states. The reality that the health professional is employing an "illness script" or using pattern recognition in caring for patients may be somewhat disconcerting at first. However, add to that process critical thinking skills of the health professional, the patient and the health care system manager and one may have designed a perfect delivery system.

In Table I, Category #8 identifies the role of the health professional in disease prevention and health promotion. The implications for the learner and leaders in continuing education call for Schon's ideas of "coaching in the artistry of reflection in action" (page xii) in a post-graduate reflective practicum (p. 305). This is further suggestive of a "core curriculum" whose basis lies in critical thinking strategies. This directly impacts Category 10.

Growing out of the above discussion, it is expected that new definitions about professional autonomy will emerge (Category #7). Multi-professional accountability and institutional responsibility should mold the changing image of the health care system and redefine the changing expectations of society, the delivery system and the practitioners. With new and innovative practice settings and increased accountability on the basis of better resources, the system promises to be better equipped to enter the 21st century. The following scenario must be considered. At no other time in the history of the health professions has there been such a wide gulf between the new practitioner and the old practitioner in terms of the knowledge explosion and available technology, practice settings, sources of accountability or internal or external professional demands. The health practitioner is quite possibly the most public figure in this society. The term "privileged knowledge" may no longer be viable in the health professions. The year 2000 may see the "naked practitioner". Knowledge attitude and skill discrepancies between the old and new practitioner need to be addressed.

Category #10 in Table I identifies the issue of the role of continuing education leaders in the design, implementation and evaluation of continuing education for the health professions. That role may well be partially defined by Brookfield (p. 119), as envisioners of alternative futures or developers of preferred scenarios. Health professionals could use case studies, patient audits, peer review activities, case histories, a simulated patient or epidemiological data to construct an idealized state either by recall or projection. This idealized state then defines the standard of practice. Modeling Brookfield's procedure, there is a need to develop specific situations,

CRITICAL THINKING SKILLS IN CONTINUING EDUCATION FOR THE HEALTH PROFESSIONS

CATEGORIES OF ASSUMPTIONS	TRADITIONAL ASSUMPTIONS	CHALLENGING OR ALTERNATIVE ASSUMPTIONS	IMPLICATIONS FOR THE LEARNER & CONTINUING EDUCATION LEADER
1. Assumptions about the health care practitioner as a reflective, critical thinker	Reflective, critical thinking skills are not valued in educational designs	Program design is based upon strategies of critical thinking	Continuing education that must use diverse formats & methodolgies over time with multiple evaluation mechanism
2. Assumptions about learning as a skill	Education is a process to transmit knowledge, attitudes & skills by the expert to a passive audience	Education is a process whereby knowledge, attitudes & skills are acquired by the practitioner through total immersion in the process	Faculty development for the expert as teacher & development of self-directedness for the practitioner with self needs assessment and strategies for critical thinking
3. Assumptions about determination of practice behaviors as outcome measures	Practice behaviors are content-based and are determined by the instructor /expert in a limited context	Practice behaviors are determined by the practitioner in the content of accountability to external forces, changing practice patterns, new developments & individual patient needs	New models for program design need to be developed with greater emphasis on shared decision-making in determination of needs, objectives and evaluation of outcome measures
4. Assumptions about professional performance and the adoption of change	Health professional performance and adoption of change is a linear cause and effect relationship	Performance & adoption of change is seen as a composite of personal, professional & social forces including phase & stage theories of development	Development & implementation of critical thinking skills for practitioners in terms of health prevention, health promotion and practice management

5. Assumptions about health professional expertise	Expertise is a matter of in-depth knowledge of pathophysiological states	Expertise is based upon illness scripts of pattern recognition process with management determined in cooperation with patients	Development & implementation of critical thinking skills for practitioners in terms of health prevention, health promotion & practice management
6. Assumptions about professional practice	Based upon technical rationality	Based upon indeterminate zones of practice	Practitioners & educators need to identify & address indeterminate zones of practice using the critical thinking model to eliminate the Black Box mentality
7. Assumptions about professional autonomy	Based upon time honored professional dominance	Based upon outside forces of consumer activism, peer review organizations & governmental regulatory bodies	New definitions of professional relationships & practice settings
8. Assumptions about the role of health professionals in disease prevention & health promotion	Based upon traditional medical models of illness and disease	Based upon a more holistic approach with patients assuming more responsibility for health and wellness	Patient education and the artistry in medicine need to be re-examined using critical thinking skills
9. Assumptions about the determination of needs for continuing education in the health professions	Needs analysis is largely based upon attempts to assess knowledge, attitudes & skills as determined by others	Self-assessment through critical thinking skills using historical patient audit as compared with standards of practice, new information, peer interaction, coaching & mentoring	A reinforcement of the apprenticeship model as ongoing throughout the career & a greater reliance on developing data bases which help identify real needs
10. Assumptions about the role of continuing education leaders in the design implementation & evaluation of continuing education programs	Role is that of program designer using traditional formats & methodologies to meet perceived needs of health professionals	Role is that of providing alternative strategies for assessing real needs & aiding health professionals to meet those needs in a variety of ways & to foster speculation on alternative structures & functions in continuing education in the health professions	Critical thinking skills need to be taught & fostered among course directors & those in leadership positions. Continuing education professionals need to become mentors of the process of critical thinking & active in envisioning the future state of continuing education in the health professions

questions, strategies and tools geared to the practitioner and those skilled helpers who would guide those involved in critical thinking exercises. These may involve mentors and influentials within each profession. The process of being able to help the professional to envision alternative futures and visions of desired states and preferred scenarios is a key area for research.

Beyond the Implications

It should be obvious that the implications for the learners and continuing education leaders fall far short of implementation of a "core curriculum" for critical thinking. But there are operational concepts for critical thinking as it specifically relates to continuing education in the health professions. The key operational steps are the two central activities involved in critical thinking: helping health professionals analyze and challenge the assumptions under which they, and others, are thinking and acting, and exploring and imagining alternatives to their current ways of thinking and acting. These assumptions may revolve around a disease or condition such as cancer, AIDS, diabetes, hypertension, arthritis, gastrointestinal problems or psychiatric problems. The assumptions may deal with subspecialty issues such as cardiology, neonatology, periodontics and pharmacology or critical care nursing. Assumptions may deal with laboratory test, choice of drug intervention or the most basic question of a physical examination or patient and family history.

It was suggested at the outset that three characteristics of the health professions are seemingly well suited to the Schon-Brookfield model. It was further suggested in examining the ten categories of assumptions in Table I, that a "core curriculum" could be developed based upon many of the implications of the challenging assumptions and utilizing critical thinking strategies. Additionally, "core structural characteristics" can be identified in the makeup of the health professions. These are listed below:

1. The apprenticeship model with emphasis on role modeling, mentoring and coaching.
2. The continuum of potential outcomes of the practitioner/patient relationship.
3. Peer relationships and interactions within each of the health professions.
4. Highly self-directed needs assessment using critical thinking strategies and objective data bases.
5. The practice of the health professions as both an art and a science.

Within these five "core structural characteristics", adapting Brookfield's series of questions for developing preferred scenarios (p.120) can be accomplished. For example:

1. What would this disease, illness, condition, patient look like if it were managed better?

2. What changes would take place in the practice management of this disease, illness, condition, patient?
3. What patterns of practice behavior would be in place that currently are not?
4. What patterns of practice behavior that are currently in place would be eliminated?
5. At what point in the practice management decision-tree should critical analysis be employed?
6. At what points in the practice management does technical rationality, the illness script, emotional response, interpersonal relationships impact on outcome measures?
7. What alternative scenarios are realistic?
8. Is this practice management the most efficient?
9. Are there alternatives to current standards of practice?
10. What forces within the health care system need to be examined?

It would seem that identification of the triggers for critical thinking in the health professions needs a thorough investigation. This categorization may contribute to the core curriculum for critical thinking in the health professions alongside of a new highly self-directed individual needs assessment. The emergence of this paradign may be a useful addition to the continuing education of these health professionals. Finally, this model may contribute to solving more global issues of the health care system such as ethics and access.

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